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Indiana Bulletin

INDIANA
UNIVERSITY OF PENNSYLVANIA

UNDERGRADUATE ISSUE

INDIANA, PENNSYLVANIA

1969-1970

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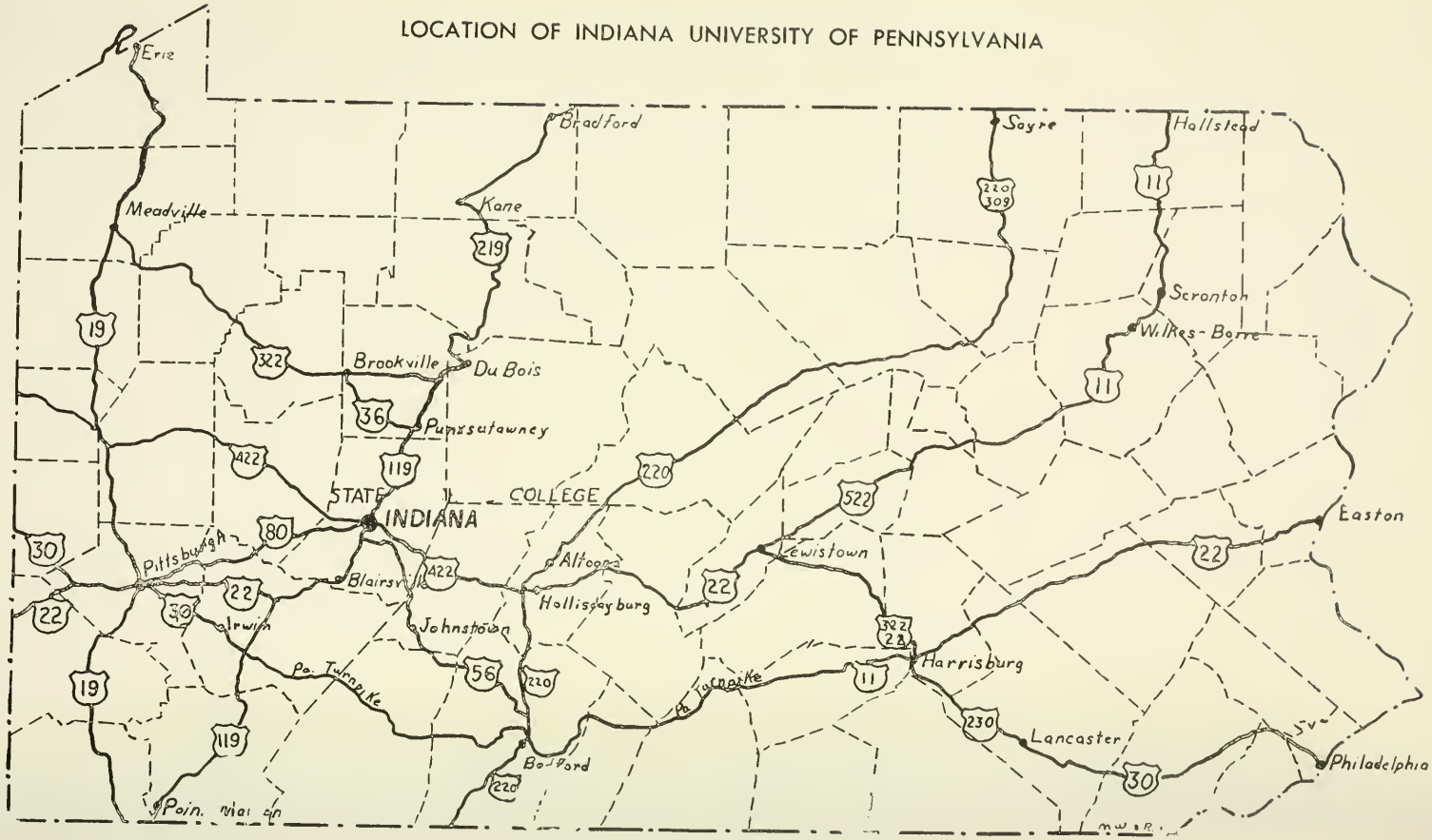

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INDIANA UNIVERSITY OF PENNSYLVANIA

BULLETIN

VOLUME 75 FEBRUARY 1969 Number 1

INDIANA UNIVERSITY OF PENNSYLVANIA
INDIANA, PENNSYLVANIA

UNDERGRADUATE CATALOG

1969 - 1970

THIS UNIVERSITY IS ACCREDITED BY THE NATIONAL COUNCIL FOR ACCREDITATION OF TEACHER EDUCATION, THE MIDDLE STATES ASSOCIATION OF COLLEGES AND SECONDARY SCHOOLS AND THE AMERICAN ASSOCIATION OF UNIVERSITY WOMEN.

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1969-1970

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THE INDIANA UNIVERSITY OF PENNSYLVANIA CALENDAR 1969 — 1970

THE SUMMER SESSIONS

Pre Session — 1969

Registration and Beginning of Classes ..... June 9

Session Ends ..... June 27

Main Session — 1969

Registration ..... June 30

Classes Begin ..... July 1

Session Ends ..... August 8

Post Session — 1969

Registration and Beginning of Classes ..... August 11

Summer Commencement ..... August 24

Session Ends ..... August 29

FIRST SEMESTER — 1969

Orientation of Freshmen ..... Friday, Saturday,

(Details will be mailed) ..... Monday, Tuesday, September 5-9

Faculty Workshop ..... Saturday, September 6

Classes Begin with First Period ..... Wednesday, September 10

Thanksgiving Recess Begins at the Close of Classes ..... Tuesday, November 25

Thanksgiving Recess Ends at 8:00 A.M. ..... Tuesday, December 2

Christmas Recess Begins at the Close of Classes ..... Saturday, December 20

Christmas Recess Ends at 8:00 A.M. ..... Saturday, January 3

Commencement ..... Sunday, January 11

First Semester Ends at the Close of Final Examinations ..... Saturday, January 17

Last Meeting of Saturday Campus Classes ..... Saturday, January 17

SECOND SEMESTER — 1970

Classes Begin at 8:00 A.M. ..... Monday, January 26

Spring-Easter Recess Begins at the Close of Classes ..... Wednesday, March 25

Spring-Easter Recess Ends at 8:00 A.M. ..... Thursday, April 2

Second Semester Ends at the Close of Final Examinations ..... Thursday, May 21

Alumni Day ..... Saturday, May 23

Commencement ..... Sunday, May 24

* * * *

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Graduate Council ..... I. L. Stright
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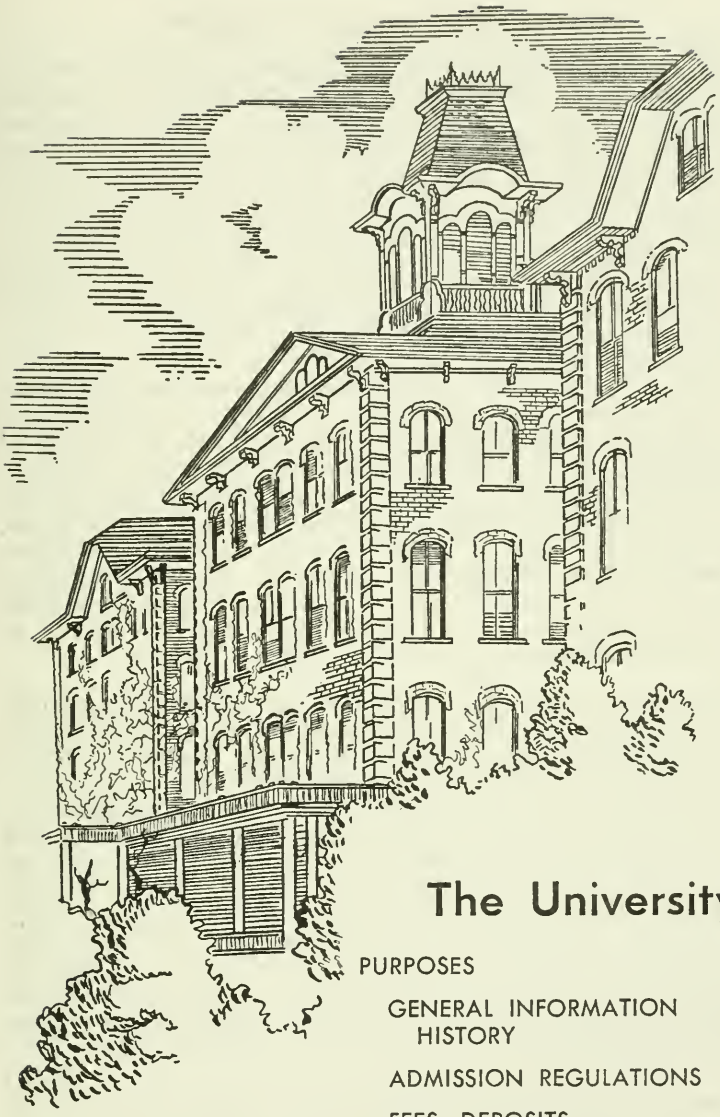
Renison, Mary — Mars
Renkin, Sylvia — Wilkinsburg
Rhodes, James — Hollidaysburg
Richards, Thelma — Johnstown
Riehl, Michael — Jeannette
Rigby, Kenneth — Murrysville
Ringer, Alice — Monroeville
Risher, Elsie — Richland Twp.
Roadarmel, Patricia — Altoona
Robins, Theodore — Wilkinsburg
Rohrbacher, Gail — Monroeville
Rose, Martha — Penn Hills
Rosenthal, Sheila — Monroeville
Ross, Miriam — Marion Center
Ruck, Joan — Hollidaysburg
Rugh, Sarah — Greensburg
Ruland, Dorothy — Indiana
Rupert, Herman — Elderton
Russell, Helen — Indiana
Rutkowski, Robert — Highlands
Rutter, Gilbert — Hempfield
Sabatos, John — Homer Center
Salay, John — Conemaugh Twp.
Salinger, Ann — Johnstown
Sanfilippo, Alvin — Greensburg
Sann, Lillian — Johnstown
Santner, Ann — Norwin
Schnorr, Anna — Fox Chapel
School, Beverly — Allegheny County
Schweiger, Thomas — Monroeville
Schweinberg, Raymond — Butler
Sebastian, Frank — Purchase Line

Seelhorst, Wayne — North Hills
Servinsky, Stanley — Indiana
Shaffer, Blanche — Conemaugh Twp.
Shaffer, Sally — Indiana
Shannon, Betty — Forbes
Shannon, Jerry — Wilkinsburg
Sharrow, Frederick — Freeport
Shaw, Francis — Punxsutawney
Shearer, Walter — New Kensington
Shearer, Yvonne — Westmoreland County
Sherren, Colette — Somerset
Shiring, Paul — Lower Burrell
Shulick, Suzanne — Blairsville
Shuster, Stephen — Greensburg
Sibley, James — Greensburg
Simmons, Robert — Hempfield
Sinclair, Donna — Butler
Singer, Chester — Somerset
Skubis, Judith — Marion Center
Slack, Robert — Monroeville
Slezak, Elmer — Greensburg
Slosky, Kenneth — New Kensington
Smeltzer, Glenn — Derry
Smith, Eileen — Lower Burrell
Smith, Gladys — Elderton
Smith, Helene — Monroeville
Smith, Mona — Blairsville
Smith, Pauline — New Bethlehem
Smith, Virginia — Monroeville
Snyder, Elvin — Punxsutawney
Southern, Mildred — Somerset
Sowers, Harold — Ford City
Speacht, Eugene — Altoona
Speicher, Sara — Shaler Twp.
Spenger, Mary — Johnstown
Sproull, Harry — New Kensington
St. Clair, Frederick — United Joint
Stachowski, Jan — Fox Chapel
Stapleton, Walter — Indiana
Staruch, Stephen — Butler
Steele, Charles — Murrysville
Stephenson, Vivian — Highlands
Stevenson, Alan — Elderton
Stevenson, Evelyn — Greensburg
Stewart, Joyce — Monroeville
Stewart, Nancy — Lower Burrell
Stewart, Robert — Marion Center
Stickley, David — New Kensington
Stinebisor, Earl — Jeannette
Stormer, William — Central Cambria
Stokes, Minerva — Lower Burrell
Stoltenberg, Loretta — Murrysville
Stramanak, Judith — Johnstown
Stringer, Catherine — Johnstown
Strycula, Walter — North Allegheny
Stuchell, William — Punxsutawney
Sullinger, James — Indiana
Sutton, Donnella — Blairsville
Swacus, John — Murrysville
Swartz, Marguerite — Murrysville
Swartz, Richard — Altoona
Swartzwelder, Phyllis — Johnstown
Swauger, Evelyn — Indiana
Szul, Joseph — Lower Burrell
Thomas, Mary Bess — Greensburg
Thompson, Elizabeth — New Kensington
Tie, Dorothy — Johnstown
Torzok, Yvonne — Homer Center
Townsend, Barbara — Indiana
Traugh, Robert — Indiana
Trefts, Janet — Greensburg
Truxal, Nellie — Blairsville
Urch, John — Ligonier
Van Dyke, Frederick — Indiana
Van Horn, Louella — Elderton
Varner, Marian — Johnstown
Varrato, LaVerne — Blairsville
Vassilaros, Constantine — Monroeville
Veselicky, Rudy — Lower Burrell
Vesely, Donna — Westmoreland County
Vinton, Beth — Indiana
Vogel, Domenica — Lower Burrell
Vorlage, Ethel — New Kensington
Waddell, Mildred — Indiana
Waldfogle, Robert — North Hills
Walter, Clair — New Kensington
Wampler, Katherine — Churchill
Wanderer, Marjorie — Lower Burrell
Ward, Rosalyn — Westmoreland County
Waryck, William — Hollidaysburg
Warzel, Roland — United Joint
Watkins, Jacques — Lower Burrell
Watkins, Thomas — Derry
Watson, Lee — Altoona
Watts, Mary Lou — Monroeville
Waugaman, Sara — Hempfield
Weaver, Marion — Ford City
Weber, William — Derry
Wellen, Maxine — Marion Center
West, Martha — Homer Center
Wetzel, Helen — Elderton
Wetzel, Jean — Elders Ridge
Wiberg, James — Altoona
Wilden, Helen — Indiana
Wille, Gladys — Penns Manor
Wilson, Arthur — Greensburg
Wilson, Betty — Monroeville
Wilson, Bonnie — Kiski Area
Wilson, Thomas — Punxsutawney
Wingard, Marlin — Windber
Winslow, Mary — Indiana
Wolfe, Donald — Kiski Area
Wolfe, Norma — Jeannette
Wood, Dorothy — Punxsutawney
Wood, Glenna — Ford City
Wood, Harry — Indiana
Woodle, Walter — Dayton
Woods, Janet — Monroeville
Woomer, Ida — Altoona
Wyncoop, Genevieve — Norwin
Yount, William — DuBois
Zedick, John — Indiana
Zeolla, Carole — Lower Burrell



The University

PURPOSES

GENERAL INFORMATION
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PURPOSES OF THE UNIVERSITY

As a multi-purpose institution Indiana University encompasses the Schools of Education, Arts and Sciences, Business, Continuing and Non-Resident Education, Health Services, Home Economics, Fine Arts and the Graduate School. Indiana University of Pennsylvania endeavors to fulfill the primary purpose of education as stated by Alfred North Whitehead, namely, "To stimulate and guide student self-development" so that the student learns both how to make a living and how to live. The University extends this educational opportunity to those students whose conscientious application and serious motivation indicate promise of substantial achievement.

As Emerson noted in his Journal over a hundred years ago, "The things taught in schools and colleges are not an education but the means of education." At Indiana University of Pennsylvania these "means of education" comprise a variety of factors. First there is a pervasive, intellectual climate designed to stimulate the student's imagination, stretch his mind, and extend his tolerance as he rubs minds with new ideas, teachers, and associates in the classroom, laboratory and the library. These intellectual contacts also tend to develop critical independent judgments, mental discipline and the ability to make mature decisions.

The various curricula are carefully structured to provide the student with a broad perspective that will enable him to appreciate his cultural heritage and at the same time afford him the opportunity to pursue in considerable depth his particular sphere of interest. Such a comprehensive program inevitably includes some knowledge that is worth knowing not for any material gain but simply because it enriches one's existence. Also, the wide spectrum of courses which a student takes frequently contains at least one or two in which a student will have little interest or skill, but these too have their values for as T. S. Eliot has observed: "No one can really become educated without having pursued some study in which he took no interest." The vast bulk of the program, of course, will both absorb and challenge the motivated student.

Undergirding the entire academic program is the philosophy that in the final analysis there is no education except self-education. Consequently, the faculty strive to whet intellectual appetites and to inculcate the problem-solving approach so that the student will acquire both the desire and ability to teach himself. In this way Commencement truly will become the beginning of "life-long learning."

In addition to enabling students to acquire professional skills and enrich their cultural existence, the University en-

deavors to instill in each student a social consciousness which will make him a contributive and substantive member of society, for as de Tocqueville emphasized we cannot have a strong democratic society without a good quality of citizenship. This attribute of good citizenship accrues partly from academic study and partly as a result of the social mores and associations which one encounters and experiences in college.

Intertwined with the goal of increasing the student's social awareness and consideration for his fellow men, is the development of moral fibre. General Omar N. Bradley is duly disturbed by the fact that "ours is a world of nuclear giants and ethical infants." Indiana University of Pennsylvania firmly believes that no education, regardless of its academic excellence, can fulfill its true potential unless students are inspired and guided by spiritual values and moral considerations.

Admittedly the University cannot succeed in realizing all of these goals; however, even this is part of the dynamic educational process of **becoming** rather than **attaining.**

This university welcomes qualified students, faculty, and staff from all racial, religious, ethnic, and socio-economic backgrounds.

THE UNIVERSITY, PRESENT AND PAST

The Indiana University of Pennsylvania is a state-owned and state-controlled institution for higher education. It is a multi-purpose institution composed of eight schools.

The university is an approved and fully accredited member of the Middle States Association of Colleges and Secondary Schools, the American Association of University Women, and the National Council for the Accreditation of Teacher Education, the three acknowledged accrediting agencies for institutions in this region. The fact that this university is a member of these three organizations is of immediate personal importance to the individual student in two ways; first, the student may transfer college credits from one approved institution to another without loss in case he finds it necessary to change colleges; and second, the student who is a graduate of an approved institution is eligible for a better position.

Throughout the entire history of the University at Indiana, great emphasis has been placed on maintaining high academic standards and providing adequate facilities conducive to individual and group growth. The present record and reputation enjoyed by the University have evolved during a ninety year history. Growing out of the need for a teacher training institution in Western Pennsylvania, the General Assembly passed an act in the legislative session of 1871 granting aid for the establishment of a normal school in the ninth district at Indiana.

The first building was completed and opened for students on May 17, 1875. This building, named John Sutton Hall in honor of the first president of the Board of Trustees, is still in use and in very good condition.

The steady growth of the institution has caused a continuous expansion in its building program and many new buildings have followed that edifice of tradition—John Sutton Hall. The size and natural beauty of the university campus offer ample opportunity for recreation in an environment conducive to personal enjoyment. The main campus of the university originally 23 acres with one building is now composed of 87 acres on which are located twenty-five principal halls, 20 other buildings, and seven athletic fields. The University Lodge, located a few miles from Indiana, is surrounded by 100 acres of wooded hillside. This not only offers opportunity for nature study by science and conservation classes but also provides an ideal setting for numerous activities of the university.

In April, 1920, control and ownership of the school passed to the Commonwealth of Pennsylvania. In May, 1927, by authority of the General Assembly, the State Normal School became a college with the right to grant degrees. The name was then changed to the State Teachers College at Indiana, Pennsylvania. In 1960, the name was changed to Indiana State College setting the stage for a liberal arts program which graduated its first students in January 1964.

In December, 1965 Indiana was redesignated the Indiana University of Pennsylvania and given the right to expand its curricula offerings and to grant degrees at the doctoral level, as well as in a number of additional areas at the master's level.

Since the founding of the university in 1875, Indiana has graduated over 23,000 students, and since the university became a degree conferring institution in 1927, over 14,000 degrees have been granted. Many of the graduates are organized into a strong Alumni Association with units active in many sections of Pennsylvania as well as in New York, Michigan, and the District of Columbia. The Alumni Association cooperates with the university in many projects designed to better the institution and for the welfare of the students.

Located in Indiana Borough, Indiana County seat, in the foothills of the Alleghenies at an elevation of about 1,300 feet, the Indiana University of Pennsylvania is ideally situated for cleanliness and beauty. The University is easily accessible by automobile over excellent state highway routes coming from all sections of the state. These leading routes are route 422 east and west, route 286 northeast and southwest, and route 119 north and south. Bus passenger services operate on frequent schedules to and from Indiana and all nearby cities and towns

including Pittsburgh, Altoona, Johnstown, Butler, Punxsutawney, Kittanning, DuBois, Ridgway, New Castle and others. Indiana is also served by bus connections with the main line of the Pennsylvania Railroad at Johnstown and Pittsburgh.

BUILDINGS AND GROUNDS

The campus at the university at Indiana is frequently described as one of the most beautiful university campuses in the country. The campus proper located in the central section of the Indiana community contains about 190 acres of land, 23 of which were in the original area. In the center of the campus is the historic oak grove about which are grouped many of the main buildings, forming three sides of a quadrangle. The rest of the campus is made beautiful by a careful distribution of shrubs, flowers and vines artistically arranged.

John Sutton Hall, constructed in 1875, was the original building and is the largest on the university campus at the present time. In addition to housing more than 1500 women students, it contains parlors, recreation rooms, laundry and ironing room, a shampoo room, and several large storage rooms and offices on the ground floor. The computer center, programming center, and library work rooms are located in the basement.

Thomas Sutton Hall, erected in 1903, an addition to John Sutton Hall, contains a kitchen and dining room on the first floor, and housing for women students on the second and third floors. On the ground floor is located the duplicating services for the University.

Clark Hall, named in honor of Justice Silas M. Clark, a former member of the Board of Trustees, was erected in 1906 on the site of a building burned that year. It was used as a men's dormitory until 1924; from 1924 to 1960 it served as a dormitory for women. It has now been reconverted into an administration building containing offices for the president, the deans, graduate studies, public relations, business, and other administrative offices.

Memorial Field House, completed in 1966, includes two large gymnasium areas, swimming pool and diving well, handball courts, wrestling room, generous locker room and shower facilities, physical therapy rooms, weight rooms, team rooms, and a lounge area. The School of Health Services maintains offices and classrooms in this building.

Wilson Hall, was erected in 1893 as the model school and was named for A. W. Wilson, third president of the Board of Trustees. From 1941 to 1960 the building served as the library

for the college. From 1960 to 1969, Wilson Hall was occupied by the Departments of Economics, Political Science and Sociology-Anthropology. In addition, part of the special education services was located on the ground floor. The Departments of Psychology and Criminology were moved to this building in 1969.

The Rhodes R. Stabley Library named for the late Dr. Rhodes R. Stabley, chairman of the English-Speech Department from 1941 to 1958, was completed in the spring of 1961. The three story building houses 300,000 volumes and provides study room for about 550 students.

An instructional program in the use of library tools and reference books is carried on by the staff to develop needed skills in library use. The well-organized general holdings of 250,000 volumes are enhanced by the reference collection, 2,000 current magazines, extensive files of bound and microfilmed magazines and newspapers, state and federal documents, pamphlets and curriculum materials.

Most materials are available by the "open stack" system which encourages the habit of using books freely. Students having access to all library materials can broaden their education through browsing, as well as widen their interests through intellectual reading.

Comfortable reading areas have been arranged in the library. Exhibits and displays are frequently changed as a means of arousing interest and supplying information. The library is completely air-conditioned.

Leonard Hall, named for Jane E. Leonard, for many years preceptress of Indiana Normal School, was erected in 1903 as a recitation building, and was destroyed by fire on April 14, 1952. A new Leonard Hall was constructed by the General State Authority and opened in September, 1954. The new building contains classrooms, laboratories, and faculty offices for the English Department and Geography Department.

David J. Waller Gymnasium was completed in 1928 and is used for the women's health and physical education program. It includes two gymnasiums, a swimming pool, a physical therapy room, two classrooms, and numerous offices for the faculty.

Jean R. McElhaney Hall, completed in 1931 houses the art, business, and part of the foreign languages departments, one entire floor being given to each. This building at one time also housed the department of home economics.

John S. Fisher Auditorium, completed in 1939, has a seating capacity of 1600, and a stage large enough to accommodate

a cast of 100 people. Its design facilitates the presentation of intimate drama to a small group or spectacles to capacity audiences. Light, air, and sound may all be mechanically controlled by the director of any presentation.

John A. T. Keith Hall, completed in 1939, was extensively renovated in 1969. History, economics, sociology-anthropology, and the offices of the social sciences coordinator are all included in this facility.

Keith Hall Annex. This building, completed in 1961, is a wing of John H. Keith Hall and houses the offices of the political science department.

The Art Education Annex and six acres of land were bought in 1947. The building has been renovated and houses part of the art education department.

Old Military Hall, a war-surplus structure erected in 1947, is located on Grant Street. It formerly contained offices, storage rooms and two classrooms for the Reserve Officers Training Corps. Presently this facility is used by the Division of Business Affairs as a purchasing and receiving facility.

The University Lodge is an important location in the instructional and recreational life of the university. Owned by students and faculty, the 100 acres of wooded hillside with its rustic lodge and three shelter houses, not only offers opportunity for nature study by science and conservation classes, but is in frequent demand for picnics, meetings, and winter sports.

Whitmyre Hall, named for Walter M. Whitmyre, who retired as dean of men in 1954 after serving for thirty-seven years, was completed in 1952. The dormitory houses 210 men students, recreational rooms, music practice rooms, dean of men's office, the dean of men's apartment, and the Whitmyre Dining Hall.

Langham Hall, named for Judge J. Nicholas Langham, Indiana County Judge for twenty years and a member of the Board of Trustees of the University for fourteen years, was completed in 1960. This dormitory houses 185 men students, a large recreation area, lounges, study rooms, and laundry room.

The Student Union was completed in the fall of 1960, and doubled in size in 1963. Another addition was added in 1965. It houses co-educational recreation center, the cooperative offices, some student publication offices, and other recreational facilities for students. This building is owned and operated through the Student Union Association, Inc., and the Student Cooperative Association, Inc., as is the modern new bookstore just across Garman Avenue.

Cogswell Hall, named in honor of Mr. and Mrs. Hamlin E. Cogswell, former music department chairman and his wife—a teacher who composed the Alma Mater, is located on South Eleventh Street. The building, housing music classrooms, practice rooms and studios, and a recital hall, was completed in 1960.

Wahr Hall, named for Corrine Menk Wahr of the class of 1916 who left a large sum of money to the university for scholarship purposes, is located immediately adjacent to Langham Hall. This dormitory, housing 152 women students, recreation room and (more) lounges, and quarters for an assistant dean of women, was completed in 1960.

Walsh Hall, named for Dr. Matthew J. Walsh, longtime professor and dean of instruction at Indiana, is located to the immediate east of Wilson Hall. This building, housing the Mathematics Department, provides classrooms for 200 students as well as faculty offices, lecture demonstration areas, and seminar rooms, was completed in 1960.

The Greenhouse of the University is used as an experimental and demonstration laboratory by the Science Departments in the conducting of biology courses.

The new University Infirmary (Albert R. Pechan Hall) is located at the corner of Maple Street and Pratt Drive. This modern facility was completed in 1969.

The Athletic Field consisting of about 20 acres includes a baseball diamond, six all weather tennis courts, and other facilities including a track. The George P. Miller Football Stadium was completed in October, 1962.

Agnes Sligh Turnbull Hall, Mabel Waller Mack Hall and **Hope Stewart Hall,** three dormitories for women students have been constructed on the former Memorial Athletic Field. Turnbull Hall was occupied in January, 1963; the other two halls were occupied in the fall of 1963.

Jennie M. Ackerman Hall, located on East Campus near Pratt Drive, is the new Home Economics Building. Built at an approximate cost of $825,000, the new building contains classrooms, lunch room, and nursery school facilities.

McClellan Gordon Hall, a dormitory for men, was completed in January, 1964. A new four-story structure which houses 230 men and the office of the assistant dean of men, is located just north of the John A. H. Keith Hall.

Joseph Uhler Hall, formerly Thaddeus Stevens School, has been completely remodeled and converted into a university classroom building. Located on the corner of Oakland Avenue

and Washington Street, the building contains twelve classrooms and office space for members of the foundations of education, educational psychology, and counseling and guidance departments. Part of the foreign languages department, including an elaborate language laboratory installed in 1968, is also housed here.

Elkin Hall, a five-story girls' dormitory is located on the southeast corner of School Street and Oakland Avenue. Costing over a million dollars, the building was completed in January, 1965, and houses 314 students.

Foster Hall, completed in October, 1965, contains dining facilities for 2,000 students. This new dining hall also contains a cafeteria and a snack bar and coffee shop.

John E. Davis Hall is I.U.P.'s newest classroom building. This unique eight-sided facility houses many departments of the School of Education on its six floors. Administrative offices, the elementary education department, special education department, learning resources and mass media department, various clinics, and the University School, a laboratory school which enrolls 160 children, are all included in this ultra modern structure.

David L. Lawrence Hall, William W. Scranton Hall, and **Raymond P. Shafer Hall** are three eight-story dormitories for men which were first placed in use in September, 1969. More than 1100 men reside in these attractive and conveniently located buildings.

Hill House and **McFarland House,** both named for longtime university employees are former residences now being used by the School of Fine Arts for art and music studios and offices.

The Maintenance Building was completed in early 1969 and houses the maintenance offices, several shops, garages, and part of the storage and supply rooms of the university.

Colonel William E. Pierce Hall is I.U.P.'s only windowless classroom building. This modern, air-conditioned facility provides classrooms, offices, storage rooms, and a rifle range for the Department of Military Science.

PRIVATE DORMITORIES

Private investors have completed several private dormitories adjacent to the university campus and these facilities provide housing for undergraduate students.

Leininger Hall, located on Oakland Avenue and School Street, houses 100 women students on the second and third

floors. On the ground floor is located the head resident's apartment and lounge area. Also on the ground floor is located a shopping complex, including a drug store, a beauty salon, a dairy store, record shop, and a local dry-cleaning pickup station.

Grant House, located on Grant Street and Wayne Avenue, houses 60 women and provides the required facilities for housing undergraduate women.

Algonquin Hall is located on Wayne Avenue and houses fifty women.

Stone Manor is located on Wayne Avenue and houses forty women students.

LeRoy Hall is located on Wayne Avenue and houses 222 women. In addition, it provides the necessary lounges, laundry, study areas and the apartment for the head resident.

Locust House, located on Locust Street, houses thirty undergraduate women students.

Oakland Hall, located on Thirteenth Street and Oakland Avenue, provides housing for 260 men students. Included in this facility are lounge areas, television room, concessions area, laundry and head resident's apartment.

Rooney Hall, located on Thirteenth Street and Oakland Avenue, provides housing for 250 men. Included in this facility are lounge areas, study rooms, laundry room, and a head resident's apartment.

Wyoming Hall, located on Oakland Avenue, houses 140 women students on three floors, including lounges, recreation area, laundry room, study rooms and a head resident's apartment.

Conestoga Hall, located on Grant Street, houses 180 women students. This building has three floors providing accommodations for 180 women students, including lounge areas, study areas, a laundry area and a head resident's apartment.

Carriage House is an apartment type facility for 400-600 women students which was completed in 1968. The university leases eight apartment units for its Home Management program.

THE GRADUATE SCHOOL

Indiana University of Pennsylvania offers programs of study leading to the degrees: Master of Arts, Master of Education, or Master of Science.

A qualified graduate student may earn the Master of Arts Degree in English, History, Geography, and Counseling Services. The Master of Education Degree is offered in Art, Business, English, Elementary, Mathematics, Counselor Education, Social Science, Music, Geography, Biology, Chemistry, Physics, Elementary Science, Science, Special Education, Speech & Hearing, Spanish, and Home Economics. A program leading to the Master of Science Degree is available in Mathematics and Geography and Physics. A non-degree program leading to certification as "Learning Resources Specialist" is available.

The primary purposes of the graduate programs at Indiana are: To encourage excellence in scholarship, to provide for depth in the student's special field, and to stimulate enthusiasm for continued cultural and professional growth.

Graduate credit is issued to students who are admitted to the Graduate School and who are registered in the graduate courses. (Courses numbered 500 or above.)

The graduate programs and courses are not listed in this bulletin but are shown in the "Graduate Bulletin." Interested persons should write to the Dean of the Graduate School for information regarding admission, course offerings, and degree requirements.

Applicants must qualify for admission to the Graduate School. Applications for admission should be filed with the Dean of the Graduate School at least six weeks before the beginning of the session in which the student wishes to initiate study. Admission to the Graduate School is governed by the following policy which has been established by the Graduate Council:

1. The applicant must present a Bachelor's degree from a college or university that has been accredited by the Middle States Association of Colleges and Secondary Schools or the appropriate regional accrediting agency.
2. The applicant must present a transcript of his undergraduate work showing a 2.5 honor point value for all four years of his undergraduate work. The 2.5 assumes a grade of A to have 4 honor points per credit hour, a grade of B to have 3 honor points per credit hour, and a grade of C to have 2 honor points per credit hour. If the applicant's undergraduate record does not meet this 2.5 honor point value, or if he is a graduate of an unaccredited college, he may be admitted by making a satisfactory score on an entrance qualification examination.
3. If the applicant is in the field of Education and interested in certification, he must possess a Provisional Pennsylvania Teacher's Certificate or its equivalent in the field in which he wishes to do graduate study.

4. A satisfactory recommendation must be obtained from the applicant's undergraduate department or from qualified references.

5. Students applying for the degree in Music Education must present evidence of musical maturity by means of a tape recording of their major area of music performance. This should be mailed to the chairman of the Music Department with a covering letter at the time of application.

THE SUMMER SESSIONS

The Summer School is an integral part of the year's work. Students from other colleges, teachers in service and students in regular attendance can secure in the summer session three to twelve hours credit toward any certificate or toward graduation in any curriculum. The courses are planned primarily for those who have had previous work and for those who are accelerating their work. An effort is made to meet all reasonable requests of teachers who are working toward higher certification or toward graduation.

All courses given in the summer session require the same amount of time and are granted the same credit as if taken during a regular semester. The Summer School Bulletin will be mailed to anyone desiring more complete information regarding the courses to be offered.

Dates. Three sessions, two of three weeks and one of six weeks, are planned for the summer of 1969. The pre-session will open Monday, June 9 and close Friday, June 27. The main session starts Monday, June 30 and continues to Friday, August 8. The post-session opens Monday, August 11 and closes, Friday, August 29. It is thus possible for a student to secure three to twelve credits by attending the summer school.

Address Director of Summer Sessions for special bulletin indicating courses and activities of the Summer Session.

THE RHODES R. STABLEY LIBRARY

Named for the late Dr. Rhodes R. Stabley, chairman of the English-Speech Department from 1941 to 1958, was completed in the spring of 1961. The three story building will eventually house 380,000 books and provide study room for about 550 students.

An instructional program in the use of library tools and reference books is carried on by the staff to develop needed skills in library use. The well-organized general holdings of 300,000 volumes are enhanced by the reference collection, 2,500

current magazines, extensive files of bound and microfilmed magazines and newspapers, state and federal documents, pamphlets, and curriculum materials.

Most materials are available by the "open stack" system which encourages the habit of using books freely. Students having access to all library materials can broaden their education through browsing, as well as widen their interests through intellectual reading.

Comfortable reading areas have been arranged in the library. Exhibits and displays are frequently changed as a means of arousing interest and supplying information.

LIBRARY HOURS: Monday through Thursday: 7:45 A.M. to 10:30 P.M.; Friday: 7:45 A.M. to 9:00 P.M.; Saturday: 7:45 A.M. to 5:00 P.M.; Sunday: 2:00 P.M. to 9:00 P.M.

HOW TO APPLY FOR ADMISSION

1. Request an application form and catalog by writing to or visiting the Registrar's Office, Clark Hall, Indiana University of Pennsylvania, Indiana, Pennsylvania 15701.

THE SCHOLASTIC APTITUDE TEST

2. Plan to take the Scholastic Aptitude Test ("the College Boards") before January 1 of your senior year of high school. The Admissions Committee recommends that you first take the test in the spring of your junior year because your application, if complete, may receive early consideration in the fall of your senior year. If you have an excellent high school record and strong College Board scores, your application for admission may be approved by December 1 of your senior year.

3. Whether you take the College Boards in your junior year or not you are REQUIRED to take the test no later than December of your senior year. This requirement includes those applicants who are admitted early.

4. To arrange to take the College Boards, write to The College Entrance Examination Board, Box 592, Princeton, New Jersey 08540 for an information pamphlet and test application. You may also make arrangements through your principal or H. S. Guidance Counselor.

5. When you receive the information and test application, fill out the test application and designate the Indiana University of Pennsylvania as one of the schools that you want to receive a copy of your test scores. Return the test application to the Princeton, N.J. address.

6. Take the test on the scheduled date.

THE ADMISSION APPLICATION FORM
(Blue and White forms)

7. Your admission application is in three forms—one blue and two white. If one of these papers is missing, please write for it.

8. You may fill out and submit the blue form and the white mailing label sheet after JULY 15 of the summer following completion of your junior year. Women MUST submit the blue form before NOVEMBER 1 of their senior year. Men MUST submit the blue form before JANUARY 1 of their senior year. Limited housing and classrooms make the above closure dates necessary.

9. When you submit the blue form, enclose a check or money order for ten dollars payable to the Indiana University of Pennsylvania. This money will be used to meet the cost of filing and processing your application.

10. Mail the blue form and the $10 application fee (payable the Indiana University of Pennsylvania) to the Admissions Office, Clark Hall, Indiana University of Pennsylvania, Indiana, Pennsylvania 15701.

11. After September 10 of your senior year give the white form to your high school principal or guidance counselor and ask that the form be filled out and mailed directly to the Admissions Office. Photocopies of your high school record may be attached to the white form.

12. Your application is complete when the Admissions Committee receives your Senior College Board test results (usually by February 1), high school record (white form) the blue applicant information form and the application fee. In some cases the Committee may request additional information such as a list of senior year subjects or a senior grade report.

WHAT HAPPENS AFTER MY APPLICATION IS COMPLETE?

1. The Admissions Committee will try to read, with care and understanding, each of the several thousand applications that are submitted each year.

2. Those persons who, in the Committee's judgment, meet its high standards for early admission receive by November 20, letters of admission. Decisions on most applications are deferred until later in the year. Final action on a completed application takes from 8 to 16 weeks depending on the number of applications that must be read. This delay is necessary if each application is to be examined carefully. Applicants who

are not given early admission can expect a decision by March 15.

3. If you are admitted to an entering class, you are required to visit the campus on an appointed date to discuss your academic and career plans with deans and other interested advisors. Choosing a major and possible career is an important problem for young men and women. We hope that early consultation with knowledgeable advisors will help you make these crucial decisions.

4. The medical examination form will be mailed to every applicant at the time his admission is confirmed.

5. Your campus interview and the payment of the $15 advance registration fee completes the processing of your application and signifies your intention to attend the Indiana University of Pennsylvania.

TRANSFER STUDENTS

Students at other colleges seeking to transfer to the University should file an official transcript of all college work and ask the college dean to forward a statement certifying that the student is entitled to honorable dismissal from that institution. Your high school transcript and college board scores should also be submitted. All of these items should be mailed to the Assistant Director of Admissions, 315 Clark Hall. If you are not eligible to continue at your present college for academic or other reasons you should NOT attempt to transfer to Indiana. Students with average or below average academic records should NOT attempt to transfer to the University. Due to space limitations the Admissions Committee will not be able to consider transfer applications for January 1970.

DEADLINES FOR TRANSFER APPLICATIONS FOR SEPTEMBER 1970

Female Transfer Applicants: November 1, 1969
Male Transfer Applicants: January 1, 1970

APPLICATIONS FOR PART TIME STUDY

1. If you plan to take day classes Monday through Friday write to or visit Room 315, Clark Hall, Indiana University of Pennsylvania and ask for the application for part-time study.

2. If you plan to take evening or Saturday classes contact the office of the Dean of the School of Continuing and Non-Resident Education, Room 217, Clark Hall.

3. Fill out the application for part-time study and return it to Clark Hall before the appropriate deadline

Deadline for Fall semester: August 25
Deadline for Spring semester: January 15

NOTE: A new application form must be completed prior to EACH SEMESTER of part-time study. One form does not cover all future part-time work.

4. Please arrange for a copy of your transcripts from other colleges and universities that you have attended to be submitted to the Admissions Office.

5. At the end of 15 credit hours of course work a part-time student must have a 1.6 cumulative average to continue. At the end of 30 credit hours a part-time student must have a cumulative average of 2.0 to continue. Those persons who do not attain a 1.6 cumulative average at the end of 15 credit hours or a 2.0 average at the end of 30 credit hours cannot continue part-time study.

DEGREE CANDIDACY

If a part-time student completes 15 credit hours of "C" work in academic subjects and has a cumulative average of 2.0 or better, he may inquire at the Admissions Office about the procedure for becoming a degree candidate. Part-time students who have successfully petitioned for degree candidacy may seek full-time status by writing to the Dean of their school at least three months in advance of the semester they want to begin as a full-time student. Students who want to be degree candidates must submit a high school transcript and College Board scores to the Assistant Director of Admissions, 315 Clark Hall.

READMISSION POLICY FOR STUDENTS WHO WITHDRAW FROM THE UNIVERSITY VOLUNTARILY

Students who withdraw from the University on a voluntary basis for reasons of health, financial difficulty, etc., and wish to re-enter, will need to notify in writing the Dean of the School in which they were enrolled as to their intent. This notification should be, at least, three months in advance of the beginning of the semester in which they wish to re-enter the University. The preceding guidelines apply also to part-time degree candidates desiring full-time status for any given semester.

PRE-PROGRAMMING AND REGISTRATION

Students who are in full-time enrollment status are given the opportunity to pre-program with departmental advisors for the next semester of attendance. Students will pre-program in March for the first semester and in May for the pre summer

session. Pre-programming for the second semester occurs in October. Class cards for the courses selected are pulled in the Programming Center at designated dates shortly after such pre-programming. Prospective freshmen will prepare a program of studies with departmental advisors during interview dates preceding the semester of entrance.

All students will accomplish registration and payment of fees by mail for the first and second semesters of each year. Registration materials are mailed to the student's home address and should be returned according to the schedule listed elsewhere in the catalog.

ACADEMIC REGULATIONS

Absence and Tardiness. The university has no cut system of absenteeism. In case of absence or tardiness, the student will fill out a blank and present it to the teacher for admission to the class.

The professor will pass judgment on the merits of the excuse and handle the matter accordingly.

The blanks will be available at any department office.

This plan puts the responsibility first upon the student, second upon the professor, and third upon the Deans of the Undergraduate Schools, who may in turn furnish the adviser and the Dean of Men or the Dean of Women with whatever information is necessary for a follow-up.

Whenever a professor feels that any student has been absent or tardy to an extent that might endanger scholastic standing, the professor will report the fact promptly to the office of the Dean of the appropriate undergraduate school.

Grades. The following grades are used in reporting the standing of students at the end of each semester or summer term: A, excellent; B, good; C, average; D, passed; F, failed; I, incomplete.

A grade of F can be cleared only by repeating the course in the regular way. The grade of I is used to record work which so far as covered, is of passing grade, but is incomplete because of personal illness or other unavoidable reason. It must be made up within two months after the student returns to the university.

Quality Points. Quality points are assigned as follows: Grade A, 4 quality points per semester hour; B, 3 quality points per semester hour; C, 2 quality points per semester hour; D, 1 quality point per semester hour and F, no quality points.

To qualify for graduation, a student must have secured twice as many quality points as the number of semester hours he has earned in this university toward his degree. Quality points are not counted on grades from other schools and a student transferring from another school is held responsible for quality points only on work taken in this University.

Advisory System. Purpose of the advisory system is to assist the student in his orientation of university life. Each student is assigned to a faculty adviser who confers with him relative to his program, his activities, his academic work, the evaluation of his progress and his education in values. At mid-semester teachers make reports of unsatisfactory work to the student's adviser. The adviser consults with the student reported with the thought of assisting him to improve his status by the end of the semester.

Grade Reports. About a week after each semester or summer session a full report is given or mailed to every student. Parents do not receive reports as it is assumed that university students are sufficiently mature and trustworthy to report the facts to their parents.

Criteria Governing Continuance in the University. The following policy will apply to students who begin their college studies in September 1968: Freshmen will be required to attain a quality point average of 1.6. Sophomores, a quality point average of 2.0. These students will be given until the close of the Main summer session following their academic year to attain these averages. Juniors and Seniors will likewise be given to the close of the Main summer session to maintain a quality point average of 2.0.

Grade point averages will be computed by the total credits attempted including those for repeat courses. According to the new system the sum of all course credits including repeats will be divided into the total quality points to calculate the grade point ratio. However, this methods of computation will not apply retroactively to student averages compiled before September 1, 1968, save for Summer School 1968 ABC students.

Any student failing to meet the above criteria will be dismissed from the university and will not be considered for readmission until the lapse of one academic year.

If the student chooses to avail himself of the procedure provided for him to seek readmission, it will be his responsibility to notify in writing the Office of the Dean of the School in which he was enrolled at the time of his dismissal and the Office of the Dean of Students before April 1, if requesting readmission for the following summer sessions or for the Fall

semester starting in September. Written requests must be made to the above mentioned offices before November 1, if requesting readmission for the Spring semester starting in January.

Acceptable Academic Standing. A freshman student must attain a cumulative average of 1.6 by the end of his first academic year, or by the end of the Main summer session following his first academic year in college. All other students in the university must maintain a C or 2.0 average on all work completed in the university.

Full-Time Student is one who is carrying a minimum of 12 semester hours during a regular semester or during the full 12 weeks summer sessions.

Classification of Students. Students are placed in one of four classes according to progress towards graduation.

A freshman has less than 30 semester hours and 62 quality points.

A sophomore has at least 30 semester hours and 62 quality points but has not attained junior standing. (Transfers having 30 or more semester hours are so classified for one semester.)

A junior has applied for junior standing and has been approved. (See Junior Standing explanation, below.)

A senior has been approved for junior standing and has earned 96 or more semester hours. (Persons holding degrees may be classified as seniors.)

Junior Standing. The main purpose of junior standing is to screen the student at the close of his sophomore year to assure him that success in a university is evident; and that the university intends to recommend him for a position if he maintains his progress at the same level. Formal admission to junior standing is a requisite for continuing the program in the university.

A student who is enrolled in his fourth semester of university work or who will have at least 57 semester hours at the end of the current semester must apply for junior standing during the current semester.

This application should be filled out completely by the student and his advisor and turned in to the office of the Dean of his School on or before the deadline set for the current semester. Each application is taken under advisement for approval or rejection by the Committee of Academic Standards within that School.

Students must meet the following requirements to obtain approval for junior standing:

1. The scholastic record must be "C" average or better for the first two years of work taken by the student, with a minimum of 57 semester hours, and the student must continue in good standing.

2. A passing grade must be attained in English I and English II. Students who transfer English credits to Indiana and are given credit for English II must attain at least a "C" grade in English I. If less than a "C" is earned, it will be necessary for the student to take English II.

3. An adequate level of achievement as measured by the sophomore examinations in Reading, Writing, Mathematics, Social Studies, and Science will be required. A student who fails any one of the examinations must repeat the test or tests the next semester or summer session he is in college. Some students may be advised to take additional course(s) in the areas where test scores are lowest.

4. For the School of Education the voice must be free from objectionable qualities. Students who have failed to pass a speech test are required to take corrective work in the Speech Clinic until their deficiencies, if remediable, have been overcome. Irremediable cases are given special consideration by the committee.

5. The student should manifest academic and social maturity, professional zeal, and social consciousness. Additionally, he should have proved himself to be dependable, co-operative and to possess high principles and good moral character. Preferably, he should participate in some extra-curricular activities.

6. The student must have the endorsement of his department. A student who fails to receive the endorsement of his department should clarify his standing with the department or change his major field.

Students who fail to meet the above requirements will be given one semester or summer session to make them up. Students who fail to clear their deficiencies at the time of the second application will be dismissed from the university.

After the first application for Junior Standing only one department change will be permitted. If the student, after his first application, changes his department it is his responsibility to see that his new department has every opportunity to evaluate him as a candidate for a degree in that particular area.

Credentials will be examined by the Committees on Academic Standards and decisions will be reached on the basis of all evidence available.

FEES, DEPOSITS, REPAYMENTS

(Subject To Change)

Basic Semester Fee

The basic fee for all students is $175.00

This fee covers registration and the keeping of records of students, library, student welfare, health services (other than extra nurse and quarantine), and laboratory facilities.

Students taking NINE or fewer semester hours shall pay at the rate of $17.50 per semester hour. Students taking more than NINE semester hours shall pay the regular basic fees.

OTHER FEES

Housing Fee. The housing fee for students is $306.00 per semester. This includes room, meals in one of the college dining rooms, and laundry of sheets and pillow cases.

Out-of-State Fee. Out-of-state students pay a basic fee of $20.00 per semester hour of credit.

Student Activity Fee. An activity fee is collected from all students and administered through the Student Cooperative Association under regulations approved by the Board of Trustees. This fee of $20.00 per semester covers the cost of student activities in athletics, lectures, entertainment, student publications, etc., and is payable in one sum for the semester at the time of registration. A fee of $7.50 is charged for Saturday campus and part time students.

Late Registration Fee. Each student registering after the date officially set for registration is required to pay an additional fee of $1.00 per day until the student is in regular attendance (except when permission for late registration has been secured in advance from the President because of illness or other unavoidable causes), provided that the total amount of the late Registration Fee shall not exceed $5.00. The same regulation shall apply to approved inter-semester payments.

SPECIAL FEES

Private Instruction in Music: The vocal and instrumental fee per semester is $50.00.

Damage Fee. Students are responsible for damages, breakage, loss, or delayed return of university property.

Infirmary Fee. After three days in the university infirmary the University shall charge students who regularly eat in the university dining room an additional $1.00 for each day. Stu-

dents who room at the university but do not eat in the university dining room shall pay $3.00 per day after the third day. Day students admitted to the infirmary pay board at the rate of $3.00 a day. This charge includes the regular nurse and regular medical service but does not include special nurse or special medical service.

Degree Fee. A fee of $5.00 to cover the cost of a diploma must be paid by each candidate for a degree.

Transcript Fees. A fee of $1.00 is charged for the second and each subsequent transcript of records.

Delinquent Accounts. No student shall be enrolled, graduated, or receive a transcript of his records until all previous charges have been paid.

Other Charges. In addition to the above fees the average student will require approximately $75.00 per semester for books, gymnasium costume, student organization dues, etc.

Military Fee. An Activity Fee of $3.00 is required of all ROTC Cadets.

Advance Registration Deposit. A deposit of $15.00 must be made when students are accepted for enrollment. This $15.00 may be deducted when the first semester fees are paid but is not refundable.

Private Accounts. As a convenience to students, personal deposits may be made in the Student Co-operative Book Store and drawn against by countercheck from time to time. A small fee will be charged for this service.

SUMMER SESSIONS FEES

Basic Fee for Six-Weeks Summer Session. The fee for students enrolled for the regular Summer Session is $17.50 per semester hour. A minimum basic fee of $52.50 is charged.

Activity Fee. For the regular summer session the fee is $7.00 and for the pre- and post-summer sessions, $3.50.

Housing Fee. For the regular summer sessions the fee is $102.00 and for the pre- and post-sessions, $51.00. This fee includes room, meals and the laundry of sheets and pillow cases.

Out-of-State Fees. Students who are not residents of Pennsylvania will pay a basic fee of $20.00 per semester hour with a minimum charge of $60.00 for each session.

REPAYMENTS

No refunds will be made to students who are temporarily suspended, indefinitely suspended, dismissed, or who voluntarily withdraw from the university.

For personal illness, if certified to by an attending physician, or for other reasons approved by the Board of Trustees, the housing and basic fees for that part of the semester which the student does not spend in the university will be refunded.

TIME OF PAYMENTS

Payment in full of all Pre-Session fees . . . June 9, 1969
Payment in full of all Main Summer Session fees June 30, 1969
Payment in full of all Post-Session fees . . . August 11, 1969
Payment for the first half of first semester . . August 12, 1969
Payment for the second half of first semester
November 4-6, 1969
Payment for the first half of second semester
December 12, 1969
Payment for the second half of second semester
March 18-20, 1970

Payment for the entire semester may be made in September and January if desired. Above dates are for 1969-70. Dates for 1970-71 will be about the same. Exact dates for 1970-71 may be secured from the university's registrar or business office.

HOW BILLS AND CHARGES ARE TO BE PAID

All bills, including basic fee and housing fee, are payable on enrollment day for at least the first nine weeks. Payment must be made by the student at registration. Checks or money orders, in the exact amount of the account, should be made payable to the Commonwealth of Pennsylvania. Book Store purchases are on a cash basis. Checks for Activity Fee should be separate and made payable to the Student Cooperative Association.

Students will not be permitted to enroll for any semester until all bills previously incurred have been paid; nor will credit be certified to other institutions or to the Department of Public Instruction until all overdue accounts have been paid.

Students desiring to leave school before the close of a semester must report to the dean of students, registrar and to the business office to settle all unpaid accounts.

Meal tickets for visitors can be obtained in the Slater Company office.

FINANCIAL AID

The financial aid program at Indiana University of Pennsylvania is administered through the office of the Director of Financial Aids. A single financial aid application form is used for both scholarships and loans.

All students who are applying for financial aid at Indiana University of Pennsylvania must also submit the Parent's Confidential Statement of the College Scholarship Service. This form may be obtained from your high school counselor, principal, or the College Scholarship Service, Box 176, Princeton, New Jersey. Applications for financial aid from entering freshmen must be on file in the Financial Aids Office by March 1 for those entering college in September, and by November 1 for those entering college in the following January.

Upperclassmen making a request must also have a Parents' Confidential Statement on file. This Statement can be secured at the Office of Financial Aids.

SCHOLARSHIPS

M. Vashti Burr Memorial Award. The sum of $100 is awarded annually to that student of Indiana University of Pennsylvania who is deemed by the faculty to be most deserving, having in mind his or her economic need and the excellence of his or her industry and scholarship. This award is given through the generosity of Mr. William V. Whittington, Washington, D. C.

Clark Scholarship. The Lieutenant Alpheus Bell Clark Memorial Scholarship was established by Mr. and Mrs. Steele Clark, Cherry Tree, Indiana County, in memory of their son. The sum of seventy-five dollars will be awarded each semester to that young man or woman, a senior in the University and a resident of Indiana County, who in the opinion of a committee chosen by the President, best qualifies for the honor in terms of academic ability, leadership, and service to the University with preference going to a veteran, or a son or a daughter of a veteran.

Harriet Farr Davis Scholarship in the Fine Arts. This scholarship worth fifty dollars ($50) is awarded each year to a senior in the Art Department who best meets a number of criteria established for this award. This scholarship was established by Dr. Guy P. Davis, a retired member of the faculty, in honor of his wife, Harriet Farr Davis.

Educational Opportunity Grants. The University receives under the Economic Opportunity Act of 1964 a sum of money to be given to students from "exceptionally low-income families" a grant from $200 to $800 a year. This grant must, however, be matched with some other aid from either the institution or an outside source. These grants are for four years.

Elementary Scholarship Award. Through the generosity of Mrs. Julia Bitner, Class of 1951, of the Elementary Education Department, an annual scholarship award of $50 is made each

year to a senior in the Elementary Education Department who has maintained a fine academic record and who has strong professional promise.

Extension Homemaker Scholarships. Homemakers participating in the Home Economics Extension program contribute funds annually for scholarships to be given to sophomores, juniors or seniors who are majoring in home economics in several colleges in the state. Indiana awards six on the basis of 4-H experience, need, scholarship and other outstanding characteristics. Each award is for $200 a year.

Gorell Educational Fund Scholarships. Each year several scholarships are granted to entering freshmen at Indiana University of Pennsylvania. These scholarships are granted on the basis of need and academic record and are granted to Western Pennsylvania students. Funds for these scholarships come from the Gorell Educational Fund administered through the Pittsburgh Foundation.

J & J Scholarship. This Scholarship of $100 is given to a worthy student from the Indiana County area. The student must have a high scholastic average and be in need of financial assistance.

Junior Chamber of Commerce Awards. These awards are given annually to juniors selected by the officers of the Junior Chamber of Commerce and the Business Education Department faculty for $35 each for one semester only.

Kappa Delta Pi Scholarships. The Kappa Delta Pi Scholarship was established by the Beta Gamma Chapter of this university to honor that member of the sophomore class who is judged to be the ideal university student. This award of twenty-five dollars is made each year by a committee of the local chapter and is awarded on the basis of scholarship. The Beta Gamma Chapter beginning with the 1961-62 college year is also offering an award of $25.00 to the graduate student at Indiana University of Pennsylvania with the best academic record.

Law Enforcement Scholarships. Five full-tuition scholarships at $280 each and five half-tuition scholarships at $140 each will be awarded to students in the Criminology program. The scholarships are given by the U. S. Department of Justice, Office of Law Enforcement Assistance. Applications and information can be secured from the Director of Criminology, Indiana University of Pennsylvania.

Ray Metzel Mellowmen Scholarship. One scholarship is given annually to that junior or senior who is a member of the Mellowmen. The scholarship is worth $200 for one year.

Monday Musical Club String Scholarship. The Monday Musical Club of Indiana, Pennsylvania, gives a scholarship in the amount of $100 good for one year only to a string major in the Music Department.

The Club also gives $100 Scholarship to a Homer Center High School senior that is going into the music field.

Morris Scholarships. The Helen Wood Morris Scholarships were established by Lieutenant-Colonel L. M. Morris, of Altoona in memory of his wife, a graduate of the university. The sum of $125 will be awarded annually to students selected by a committee named by the institution, one award to a sophomore, the other to a junior. Students chosen must be in the highest quarter of their class, must be in need of financial assistance, and must have demonstrated worthiness in terms of character, personality, leadership, and American citizenship.

Operation Friendship Scholarship. The award is given to a foreign student who demonstrates good will, character and scholastic achievement at Indiana University of Pennsylvania. The Loan and Scholarship Committee will name the recipient.

Ethyl V. Oxley Scholarships. Each year the Alumni of the Home Economics Department awards $75.00 scholarships to one, two or three outstanding students in the department. Awards are based on evidence of such characteristics as dependability, initiative in worthwhile professional experiences, accepting responsibility, social sensitivity and sincerity in dealing with people, sense of values, personality and scholarship.

The Lenora Pechan Scholarship. The Lenora Pechan Scholarship is awarded by Dr. Albert R. Pechan, a member of the Senate of the Commonwealth of Pennsylvania and of the Board of Trustees of the Indiana University of Pennsylvania in the amount of $100 each year ($50 each semester) to a sophomore student, a member of the Reserve Officer Training Corps, who has been an outstanding student in the ROTC and whose other academic work is satisfactory. First priority will be given to a student from Armstrong County, selected by the officers of the Reserve Officers Training Corps and the Faculty Scholarship and Loan Committee.

Pennsylvania Federation of Women's Clubs Scholarships. At least four scholarships of $100 each are offered annually to students in the art education department. These scholarships are provided by voluntary contributions from clubs to "Pennies For Art Fund," by the Pennsylvania Federation of Women's Clubs.

Raymond P. Phillips Athletic Scholarship. The Raymond P. Phillips Scholarship was established in 1966. A committee

was named by the donor to handle all applications. The Director of Financial Aids is Chairman. Two scholarships at $200 each are given each year. The Scholarship holder must be participating in the sport to remain eligible.

Presser Foundation Scholarship. The Presser Foundation of Philadelphia awards two scholarships each year to music students at the Indiana University of Pennsylvania. Interested music students should apply through the chairman of the music department.

Quota Club Scholarship. The Quota Club of Indiana has established a scholarship of $100 per year. Senior girls in Speech and Hearing are eligible. Interested persons please contact the Director of Speech and Hearing for information.

ROTC Scholarships. The United States Army offers several two and four year scholarships. The United States Army pays for tuition, laboratory fees, textbooks and other required expenses except room and board. In addition the student receives $50 per month for the duration of the scholarship, except for a six-week Summer Camp Program where the pay is $151.95 per month. To qualify the student must complete the ROTC program and must display a strong desire for a career as a Regular Army Officer. Instructions on how to apply may be obtained from the Professor of Military Science.

Hannah Kent Schoff Memorial Scholarship. Annually a scholarship worth six hundred dollars ($600) will be awarded to two entering freshmen at Indiana University of Pennsylvania. Applicants must be graduates of Pennsylvania High Schools who wish to prepare for teaching. Application forms may be obtained by writing the Financial Aid Office, Indiana University of Pennsylvania, Indiana, Pennsylvania. Applications must be filed prior to March 1st of each year.

Secondary Education Club Scholarship. The Secondary Education Club grants a one-year scholarship for $50 to a secondary upperclassman.

Service Club Scholarships. The Kiwanis, Lions, and Rotary Clubs of Indiana, Pennsylvania, have scholarship programs which provide financial aid for approximately 16 students per year at Indiana University of Pennsylvania. These scholarships are administered by the local service clubs with assistance from the Financial Aid Office at the University.

Sgriccia Brothers Memorial Scholarships. Each year three scholarship awards of $100 each are granted to a senior in each of the following high schools: Marion Center, Penns Manor, and Purchase Line. These awards are made to a senior boy or girl planning to attend Indiana University of Pennsylvania

who has attained the highest academic average during the tenth, eleventh, and twelfth grade years. Funds for these scholarships have been provided by the Sgriccia Brothers of Clymer, Pennsylvania.

State Scholarships. The Department of Public Instruction annually awards scholarships on the basis of competitive examinations held in November of each year. These are awarded in each county and senatorial district in the state. Each scholarship is worth $200 a year for four years and may be used at the State Colleges. Inquiries concerning State Scholarships should be sent to State Scholarship Program, Division of Guidance and Testing, Department of Public Instruction, P.O. Box 911, Harrisburg, Pennsylvania.

String Scholarship Fund. This Scholarship information can be secured from the Music Department. We want to thank the following for their contributions: Bruno's Restaurant; First National Bank in Indiana, Pennsylvania; Indiana Music House; and Pepsi Cola Bottling Corp.

Student Council Foreign Student Scholarships. The Student Council grants four full scholarships annually to foreign students who have not previously been in the United States, and who can complete their proposed program in one academic year. Applications should be submitted to the Foreign Student Adviser no later than March.

Syntron Foundation Scholarships. Through the Syntron Foundation of Homer City, four 4-year scholarships are awarded annually to freshmen. These scholarships are worth $350 per year. Eighteen scholarships are in effect each year. Preference is given to graduates of Blairsville, Homer City, and Indiana High Schools and other high schools in the county. Applications must be filed with the Director of Financial Aids by March 2. Nine of these scholarships are identified as C. S. Weyandt Memorial Scholarships and the other nine are identified as J. A. Metz Memorial Scholarships.

Theta Xi Scholarships. Each year through the generosity of the Theta Xi National Men's Fraternity four scholarships of full tuition are granted to students at Indiana University of Pennsylvania. Two of these scholarships are granted to members of the Beta Lambda Chapter of the Theta Xi. Two are granted to members of the student body at large.

J. M. Uhler Memorial Scholarships. In honor of a former President of the University, and a past President of the Indiana Kiwanis Club, this organization awards a $100 per semester scholarship for the recipient's four years in school showing adequate scholastic progress. These scholarships are available to graduates of high schools within Indiana County. This fund

is administered by the J. M. Uhler Scholastic Committee of the Indiana Kiwanis Club.

Corinne Menk Wahr Scholarships. Through the generosity of Corinne Menk Wahr, Class of 1916, approximately fifteen scholarships are awarded each year to worthy students. The amounts range from fifty to one hundred and forty-four dollars, payable in the designated amount for each of four years. Applicants for Wahr Scholarships must be residents of Pennsylvania and must be interested in the teaching profession. Applications may be secured from the Director, Financial Aid. In any one year as many as eighty students may be receiving a total of $9,000 of Wahr Scholarship money. Policy governing the scholarship fund is established by the Board of Trustees and administered by a committee appointed by the President of the University.

Nine Wahr merit recognition scholarships of fifty dollars each are given each year to students at the university for excellence in certain fields as follows: The student who excels in athletics; the student who contributes the most to campus welfare; the student who does the most to promote the fine arts; the student showing the most initiative in bringing new ideas or action to the Indiana campus; the student evidencing the most professional promise as a teacher; the student with the highest scholarship during the first three years of university; and the student who writes most effectively; and the graduate student with the most commendable record.

The Norah E. Zink Football Award. Dr. Norah E. Zink, a retired professor of the Geography Department of Indiana University of Pennsylvania has established an annual award of $25 which she gives that member of the varsity football team whose academic average shows the greatest improvement over the fall semester.

LOANS

Jennie E. Ackerman Loan Fund. By action of the Executive Committee of the Indiana University of Pennsylvania Alumni Association, the Jennie E. Ackerman Loan Fund was established in 1962, by contributions from alumni and friends. This fund commemorates the memory of Jennie E. Ackerman who served as Supervisor of Student Teachers at Indiana University of Pennsylvania for many years and is available to sophomores, juniors, and seniors who are maintaining satisfactory academic records at the University. The maximum outstanding amount extended to any one student cannot exceed $200. Interest is at the rate of 2% payable at maturity of the loan. Notes extended beyond that time will carry a 6% interest charge.

Robert Bellis Scholarship Loan Fund. A loan fund has been established at Indiana University of Pennsylvania by friends and relatives in memory of Robert G. Bellis, a graduate of Indiana State College. The Robert Bellis Scholarship Loan Fund, as the memorial will be known, will be used to grant loans to deserving students, preferably to juniors or seniors. Interest is at the rate of 2% payable at maturity of the loan. Notes extended beyond that time will carry a 6% interest charge.

Jane E. Leonard Memorial Loan Fund. This loan fund was established several years ago and has been built up largely through the work of the faculty and alumni. The fund now totals about $30,000. The governing board in charge of granting loans consists of a faculty committee appointed by the president of the University. The plan in operation provides for the granting of loans to sophomores, juniors, and seniors with interest at two per cent, payable at maturity of the loan. In special cases of emergency a freshman may arrange for a short-term loan during his second semester in the university. The maximum outstanding loan to any student cannot exceed $400. Applications are available at the Director of Financial Aids Office.

Thirty-day loans not to exceed $20 are available to all students in cases of emergency. No interest is charged. These loans are available upon application to the Dean of Students, Dean of Men, or Dean of Women.

Mack Loan and Scholarship Fund. A loan and scholarship fund has been established by members of the Mack family to be used for making loan and scholarship grants to worthy students with financial need. Preference will be given to freshmen and sophomores who can give evidence of academic excellence, financial need, and promise as a future member of the teaching profession. At the present time the maximum loan available is $200 per year. Interest is at the rate of 2% payable at maturity of the loan. Notes extended beyond that time will carry a 6% interest charge.

Dr. Joy E. Mahachek Loan Fund. A loan fund in the name of Dr. Joy E. Mahachek, former Chairman of the Mathematics Department at Indiana State College, has been established by the Alpha Sigma Alpha. Preference of this loan will be given to a sophomore with a minimum cumulative average of 2.0.

Alan P. Mewha Geography Memorial Loan Fund. This fund was established in 1959 and is administered by the faculty of the Geography Department. Juniors and Seniors have priority on loans from this fund. Interest rates are the same as those for the Jane Leonard Fund.

National Defense Student Loan Program. The National Defense Student Loan Program was authorized by the enactment of Public Law 85-864, the National Defense Education Act of 1958. The law requires that each borrower be a full-time undergraduate or graduate student, that he be in need of the amount of his loan to pursue his courses of study, and that he be, in the opinion of his institution, capable of maintaining good standing in his chosen courses of study. The law further provides that special consideration in the selection of loan recipients be given to (a) students with a superior academic background who express a desire to teach in elementary or secondary schools, and (b) students whose academic background indicates a superior capacity or preparation in science, mathematics, engineering, or a modern foreign language. A student may borrow for college expenses in one year a sum not exceeding one thousand dollars ($1,000), and during his entire course in higher education, a sum not exceeding five thousand dollars ($5,000). Applications are available upon request at the office of the Director of Financial Aid.

Rusty Preisendefer Memorial Loan Fund. This fund was established as a gift given by Mrs. Suzanne Preisendefer Brickner in memory of her husband who was killed in action in South Viet Nam. Preference in granting loans from this fund shall be given to members of the advanced R.O.T.C. and upperclassmen. Loans will be made up to a maximum of $400 per individual with the first note carrying a 2% interest charge. Notes extended beyond that time will carry a 6% interest charge.

Flossie Wagner Sanford Student Loan Fund. The Pennsylvania Federation of Women's Clubs has established a student loan fund in honor of Flossie Wagner Sanford an alumna and former member of the faculty of Indiana State College. Loans from this fund are made to qualified students by the Faculty Loan and Scholarship Committee who need financial assistance. Interest is at the rate of 2% payable at the maturity of the loan. Notes extended beyond that time will carry a 6% interest charge.

Tau Kappa Epsilon Loan Fund. Through the generosity of a former Tau Kappa Epsilon faculty adviser, a sum of money has been made available for loans to members in good standing academically and with the fraternity. The maximum outstanding amount to any one student cannot exceed $400.

Men's Varsity "I" Loan Fund. The Men's Varsity I Club has built up a loan fund for members of varsity athletic teams in good standing. Members may borrow not more than $150.00 per year. Loans are made for a reasonable period of time and are interest free for the first year. Thereafter the interest rate is two per cent per annum.

EMPLOYMENT

Student Employment. Students are employed on a part-time basis in a number of departments on the campus. Positions are filled on the basis of financial need and the special abilities required in certain jobs. Students are assigned to such jobs as waiters in the dining room, typists, office clerks, library assistants, relief switchboard and elevator operators, and janitors. Students in need of employment should file an application in the office of Financial Aid. All assignments to student employment are made by this office. Except in cases of extreme necessity, freshmen should not seek employment, but should plan to concentrate on their academic work.

Applications for student employment are not accepted from students until they are actually on campus. To be kept on student employment rolls, the student must earn at least a "C" average in his total academic program.

Student employment may be either under the Work-Study Program under the Higher Education Act or the regular university employment budget.

Work-Study Program. This program was initiated by the enactment of the Economic Opportunity Act of 1964. It is intended to stimulate and promote the part-time employment of students who are from low-income families. When the needs of all interested students from these income levels have been met, then any remaining funds may be used to provide employment for other students who have demonstrated financial need. The minimum hourly rate of pay is $1.25 per hour with fifteen hours per week.

STUDENT SERVICES

The student personnel staff of the university attempts to provide those services to students which should support the best learning climate possible. Recognizing that the academic program of the university is its reason for existence, the student personnel staff considers its program a most important supportive function of the university. Students are urged to become completely informed about these services and about the rules and regulations applying to them as citizens of a university community.

SOCIAL REGULATIONS OF THE UNIVERSITY

Enrollment in the University implies an agreement on the part of each student to comply with the customs of the University and to obey the regulations.

The University reserves the right to dismiss any student who refuses to conform to University regulations.

No firearms or ammunition may be stored in university-owned or university-supervised dormitories. Students living in private rooms or apartments in town may not possess or store firearms or ammunition without prior approval of the landlord.

There shall be no intoxicating beverages or gambling on university property, in fraternity houses, or in residences rented in town. Students 21 years of age or over are not subject to the provisions of the ban on drinking providing they live in town and have prior permission from their landlords. Students living in town who are 21 years of age or over must assume full responsibility under the laws of the Commonwealth of Pennsylvania concerning supplying intoxicating beverages to those under the legal drinking age. Violation of this rule may lead to immediate suspension from the University. Students appearing on campus in an intoxicated condition regardless of age may be suspended.

Smoking will be permitted except in areas officially designated by the University as non-smoking areas. These include classroom buildings, the library, and many dormitory buildings which are considered unsafe for smoking. Smoking in these dormitories will be confined to prescribed smoking room areas.

Students are not permitted to act as sales or advertising representatives on campus without permission of the Dean of Students. Students should require outside sales representatives to show their authorization before making any commitment of any kind.

Students are not permitted to use or to have stoves, heaters or cookers, or other equipment for producing fire or heat in their rooms. Such equipment is prohibited by fire regulations and will be removed and confiscated by the fire inspector.

Non-commuting freshmen are not permitted to have cars at the University. Upperclass students living in dormitory residences are also not permitted to have cars on the University campus. Upperclass students living off campus will be permitted to have cars provided they are registered with the Dean of Student's Office. Students not commuting from home are not permitted to park on the campus between the hours of 8:00 a.m. and 5:00 p.m. daily. Exceptions to the above rules may be made in unusual circumstances by the Dean of Men or the Dean of Women.

ADVISORY SYSTEM

The objective of the advisory system is to provide an opportunity for each student to discuss problems relative to his scholastic work with an instructor in his major field. Each student is assigned a faculty adviser by the chairman of his major department and the Dean of Students' office. A regular advisory hour is scheduled at 11:00 a.m. on Tuesday and Thursday of each week, although a student may consult his adviser at other times. An attempt is made to keep the student with the same adviser throughout his program at the University.

CARS

Every student and every faculty or staff member who regularly drives a car on the University campus must register with the Dean of Students and have a sticker on the left side of the rear bumper. Parking violations are checked daily; drivers may be fined for illegal parking. These regulations also apply to motor bikes and scooters.

Students living in university-owned or university-supervised dormitories are not permitted to keep cars in Indiana unless special permission is given them by the Dean of Women or the Dean of Men.

WOMEN'S DINING ROOM POLICY

All freshmen, sophomore and junior women living in university owned or operated dormitories will take meals in the university dining halls unless excused by the Dean of Women for good cause. Senior women may take meals in the dining halls if they wish. All arrangements for off-campus meals must be made with the Dean of Women before June 1 or January 1. This policy is subject to change at the close of any semester. Any changes in dining room status during the semester must be approved by the Dean of Women.

WOMEN'S HOUSING POLICY

All single women except those living with immediate relatives, those working for room and board in approved private homes, graduates of other institutions, or veterans are required to live in university dormitories or university operated houses unless special permission is granted by the Dean of Women. Married women may arrange for accommodations off campus.

Note: Working for room and board constitutes the giving of twenty hours of work in exchange for room and meals. There shall be no exchange of cash monies except where the employer feels that the employee has done more than her

share, or where extra work is done over and above the twenty hours.

Up to March 15, those students who have indicated their intention of returning in the fall will have rooms assigned to them as follows: If they desire to keep the rooms they have, these rooms are reassigned to them, unless for some reason it is felt wise or necessary to withdraw students from said rooms. As soon after March 15 as possible, the remaining rooms are chosen by lot. Only students who have indicated their intention of returning in the fall may reserve a room for the following year. Otherwise, their assignment to a room is cancelled and they take a place on the list of entering students.

General supervision of the personal and social welfare of women students is exercised by the Dean of Women, Assistant Dean of Women, and head residents. Student body, faculty, and administration cooperate to maintain high standards of social life and conduct. Privileges are granted according to official class ratings based on academic achievement. Restrictions which are put upon the freedom of students are felt to be necessary for successful study and living conditions and for the well-being of the group.

Participation in dormitory government is vested in the Women's Collegiate Association, of which all resident women are automatically members. Representatives from each living unit make up the Council, which serves as a clearing house for discussing difficulties and making recommendations concerning dormitory problems. A Judicial Board administers and enforces association regulations.

MEN'S DINING ROOM POLICY

All male students living in university buildings shall eat in a university dining room. Men living off campus who wish to eat in a university dining room may do so as long as space is available, but they shall make arrangements with the Dean of Men. Cooking in rooms in university buildings is absolutely forbidden. Assignments to a university dining room are on a semester basis except in cases of emergency and when excused by the Dean of Men.

The appropriate dress for men for the evening meal in university dining halls will be shirts with collars, slacks, socks, and hard-soled shoes. Blue jeans, shorts, and generally untidy appearance will not be tolerated. Shorts, sweat shirts, and tennis shoes are permissible dress for the breakfast and noon meals except on Sundays. Dress for the Sunday noon meal will be dress shirts with ties and coats. Socks are required at all meals.

These regulations are subject to change at the close of any semester.

Men's Housing Policy. Campus rooming facilities are under the supervision of head residents, student hall counselors or house heads, and these are responsible to the Dean of Men and Assistant Dean of Men. This group assists in effecting orderly procedures in resident living. All men, whether living on or off the campus, are expected to abide by the rules and regulations of the University.

All freshmen, except those who commute from home daily, or who live with relatives, or who are married, shall live in one of the dormitories, or other college property when accommodations are available. Other non-commuting students entering Indiana for the first time shall live in university property when they can be accommodated.

Likewise, upperclass non-commuting men under 21 years of age, shall live in one of the dormitories or other university property when space is available unless excused by the Dean of Men. Priority for assignments shall be to sophomores, juniors, and seniors, in that order.

Non-commuting men who cannot be accommodated on the campus are expected to select rooms in town from an approved list compiled in the office of the Assistant Dean of Men. All financial arrangements are the responsibility of the student and the landlord. The Assistant Dean of Men is responsible for supervising rooming accommodations in town.

The foregoing policy may be changed at the end of any semester.

FOOD SERVICES

There are three dining halls on campus, each providing twenty-one planned meals per week for resident students. Non-resident students may make arrangements to take meals in one of the dining halls through either the Dean of Women or the Dean of Men. All such arrangements are on a semester basis. Meals or snacks may be purchased in the Student Union Coffee Shop or in the cafeteria in Foster Hall. There are also restaurants and sandwich shops located around the edge of the campus.

Baggage. All baggage is delivered to the basement of the dormitory to which the student is assigned. Luggage should be plainly marked with the student's name and, if the room assignment has been made, should also bear the room number. Students living in university owned or university controlled houses should mark their baggage with the street address.

Laundry. The university provides each student with a laundered sheet and pillow case each week plus a laundered bedspread twice a month.

Laundry and ironing rooms are maintained on the ground floors of all women's dormitories and on the ground floors of the newer male dormitories.

Student Supplies. Students who live in university dormitories are furnished bed linen and bedspreads. Each student must provide blankets, towels, soap, needed toilet articles, etc. Curtains and draperies are provided.

Students must also furnish their own gymnasium attire and towels. The Physical Education Department requires regulation gymnasium and pool equipment, which are purchased in the College Book Store.

Each student is required to own a good college dictionary, approved by the English Department. Such a dictionary costs about $6.00 and can be purchased in the College Book Store. Core courses in English require the dictionary as a standard text; other college courses use it extensively.

Vacation and Guest Charges. Students may not remain at the university during Thanksgiving, Christmas, Easter, or summer vacation. Students and teachers are responsible for meals of their guests at current transient rates. The transient rate for meals is as follows: breakfast, 60 cents; lunch, 85 cents; dinner, $1.25.

A charge of $1.58 is made for overnight guests on Friday and Saturday nights. Arrangements should be made with the House Director, or Dean of Women, or Dean of Men, depending on the dormitory involved.

UNIVERSITY INFIRMARY

SPECIAL CLINICS

Three clinics at the university offer diagnostic testing and remedial or improvement service or instruction in the following areas:

Psychological Clinic-diagnosis of academic and behavior problems and personal, vocational, and educational counseling.

Reading Clinic-diagnosis and remedial instruction for reading and spelling disabilities and instruction for the improvement of present skills.

Speech & Hearing Clinic-diagnosis of speech problems, hearing tests and evaluations, and a regular program of therapy.

These services are made available without charge to the students regularly enrolled at the university in order that they may be given the assistance necessary to remove deficiencies which would interfere with their successful performance and progress in the university and in their future work.

University students who need help in any of the areas suggested above are encouraged to use the facilities provided for them.

University students may of their own initiative come to any clinic for help, or they may be referred by any faculty member or university official.

PLACEMENT SERVICE

The services of the Placement Office are available to students who are graduating, students who are attending for certification, students who have been admitted to the graduate school, and alumni. The directors of the various departments take an active interest in the placement of their graduates. The Office supplies credentials to employers who are seeking applicants for positions, arranges for interviews, serves as a center where graduates may keep their records up-to-date, supplies occupational counseling service, and maintains a current file of job opportunities. A computerized information retrieval system is available which permits college graduates to make their qualifications known to employers seeking to fill their company's open positions. Positions are not guaranteed by the university, but Indiana's record of placement is one of the very best in Pennsylvania. The Placement Office also receives and makes available to graduates and undergraduates lists of vacancies in summer camp counseling.

MAIL

The University Post Office is located in the west wing of Foster Dining Hall, at the corner of Eleventh and Grant Streets. The mail is delivered to offices and dormitories from this location. As it is a branch of the Indiana Post Office, the University Post Office provides most postal facilities, including boxes for commuting students.

The hours are 8:00-4:00, Monday through Friday, and 8:00-11:30 a.m., Saturday. During summer school, the Post Office closes at 3:00 on weekdays.

COMMUTERS

Accommodations for women day students are provided in John Sutton Hall. There is a study room for men day students on the ground floor of Gordon Hall. Men may obtain lockers,

in the basement of Whitmyre Hall, by applying at the office of the Dean of Men.

Library facilities provide pleasant study conditions for non-resident students, and the Foster Dining Hall Lounge is open to all students. Commuter mail is held at the University Post Office window. Mail boxes are available.

Day students may purchase lunches in the Thomas Sutton Dining Hall, the Charles Foster Dining Hall, the Student Union, or in the coffee shop of Foster Dining Hall.

SELECTIVE SERVICE REQUIREMENTS

All students must register with their Local Draft Board when they reach 18 years of age.

To secure a 2-S classification a student must complete the Selective Service Information card which is included in his registration packet. The students selective service number must be reported to the Assistant Dean of Men if it is received at a later date.

A student must carry at least 15 credit hours per semester, throughout the semester, to be eligible for a 2-S classification. Satisfactory progress at the University is necessary to retain a student deferment.

Application forms for the Selective Service Qualification Test are available at the office of the Assistant Dean of Men at appropriate times throughout the year.

Veterans. Children of a deceased veteran whose death was due to service-related causes may be eligible for educational assistance from the Federal Government under Public Law 634 (War Orphans' Educational Assistance Act). Immediately upon acceptance to Indiana, men and women who may qualify for such assistance should contact Veterans Administration to determine their eligibility. They should report to the Assistant Dean of Men before registering at the University if the Veterans Administration approves their training under Public Law 634. The office of the Veterans' Counselor is in Gordon Hall.

An individual serving with the Armed Forces for more than 180 days after January 31, 1955 is eligible for the Cold War G.I. Bill (PL 89-358) providing he meets certain other requirements. A prospective student should contact the Veterans Administration and submit to them the Veterans' Application for Program of Education.

Individuals eligible for the Cold War G.I. Bill must report to the office of the Assistant Dean of Men in Gordon Hall fol-

lowing registration and scheduling to prepare the necessary forms for education benefits.

Reserve Officers Training Corps. The United States Army has a unit of the Reserve Officers Training Corps at the university. All physically, morally qualified male freshmen are required to take and pass one year of the Basic Course of Military Science. A freshman male who is a conscientious objector may apply to the Dean of Academic Affairs for a waiver of the Military Science requirement. Upon graduation from the regular university course and successful completion of the Reserve Officers Training Corps Program, the student will receive a second lieutenant's commission in the United States Army Reserve. To make this program possible, deferments from the draft are issued to the students successfully meeting the University and ROTC requirements. Upon graduation, the former student serves on active duty for a period not to exceed two years, if called by the Secretary of the Army. This enables the student to obtain his university degree and then fulfill his obligation to his country.

Under special conditions, deferments to obtain advanced degrees are granted by the Army to ROTC students who wish to do graduate work prior to going on active duty. Additional information on this subject can be obtained at Military Hall.

STUDENT COOPERATIVE ASSOCIATION

The Student Cooperative Association plays an extremely broad role in the extracurricular life of the college. All students and faculty members belong to the Association. Generally speaking, almost all campus-wide activities outside of the instructional program are sponsored wholly or in part by the Association.

The **ACTIVITY FEE** is the chief source of income for the Association's activities. Upon payment of the fee each semester, every student receives an "I" card which will admit him free of charge to all University social, cultural, and athletic activities. Full refund of the fee will be given to students withdrawing from the University within one month from the first day of classes. After the first month no refunds will be given. Other income for the Association comes from the Co-op Bookstore profits, athletics income, and income from all other events sponsored by the Association.

FACILITIES OF THE ASSOCIATION

STUDENT UNION—The Student Union, built by the students through their Activity Fee, offers many facilities for the University family. Students may relax or watch television in

the lounge, buy a snack or a complete meal at the coffee shop, listen to their choice of records in the music center, or play cards, billiards, or table tennis.

The Bookstore, the Student Bank, and the Cooperative Association offices are located in the Union, as well as the Penn, the Oak, the Student Government, the Student Union Board, and a general student organization office area.

The Student Union Board and the Union Director and Program Director plan an active program of lectures, dances, movies, receptions, exhibits, and other events throughout the year.

BOOKSTORE—The Co-op Bookstore is located in the Student Union Building. The store stocks a complete line of all needed textbooks, supplies, paper-back books and other requirements needed for class use. In addition, the shopper will find an extensive selection of records, college wear, stationery, jewelry, sundries and souvenir items.

The store is operated on a competitive retail basis with all profits from operations reverting to the Student Cooperative Association for use in supporting student activities.

BANKING SERVICES—The Student Bank is operated in the business office of the Student Union. Students receiving money from home and not wishing to take the risk of carrying it on their persons or leaving it in their rooms may deposit it in the bank and withdraw it as needed by the issuance of checks. University checks are good only on campus. To help defray the expense of operation, a nominal charge is made when an account is opened. Students are urged to use this service as a precaution against loss.

STUDENT PUBLICATIONS

INDIANA PENN

The **INDIANA PENN**, the campus newspaper, is published twice a week—Tuesdays and Fridays—by students who wish to gain writing experience. Interested students are advised to attend the organizational meeting which is held early each semester.

The positions of editors and news editors are filled by Student Government action upon recommendation of a student-faculty committee. The co-editors select their own staff. There are 10 paid staff positions.

Applications for editor and news editor may be obtained from the **PENN** adviser. Only those students with at least one semester experience on the **PENN** staff are eligible to apply for the two top positions. Advisor: Dr. Swauger.

OAK

The **OAK** is the University yearbook, a pictorial and written review of the year's activities. Subscriptions may be purchased during the Fall Semester in Leonard Hall. The Daily Bulletin will carry notices of the subscription drive.

Applications for staff positions may be obtained from the Director of Public Relations. From these applications, a committee, composed of students and faculty, selects the staff members. The ten paid positions on the staff are subject to the approval of the Student Government. Advisors: Mr. Judge, Dr. Swigart, Mr. Slenker.

PARCHMENT CONCH

The **PARCHMENT CONCH,** a student-sponsored magazine, gives under-graduates the opportunity to see their best literary efforts in print. Any student may submit articles, short stories, short plays, poems, and essays for publication. Instructions for submitting manuscripts appear in the Daily Bulletin in November of each year.

Application for the editorial positions on the **PARCHMENT CONCH** should be made to the advisers, but the final selection is made by the Student Government acting on the recommendation of the Committee on Publications. Advisors: Rider and Ianni.

UNIVERSITY DIRECTORY

The University Directory is distributed early in the fall term to students and faculty. It contains a directory of all properly registered students, of staff, and of University offices. Advisor: Knowlton.

INFORMATION BOOKLET

This handbook is distributed annually to all students free of charge. It includes rules and regulations, the extra-curricular program, and general information of interest to students.

UNIVERSITY LODGE

The University Lodge plays an important part in the recreational and instructional life of the University. Owned by students and faculty, this 100 acres of wooded hillside, with its rustic lodge, three picnic shelters, rope ski tow, toboggan run, and nature and hiking trails, not only offers opportunities for classes to study nature and conservation but also is in demand for picnics, meetings, and winter sports.

Any student or faculty member is welcome to use the Lodge property, but must be ready to identify himself by presenting an "I" card at the request of the caretaker.

During the winter sports season, ski equipment, sleds, and toboggans may be checked out for use.

EXTRA-CURRICULAR ACTIVITIES

A large number of extra-curricular organizations conduct active programs on the Indiana University of Pennsylvania campus. In order to be recognized as an official university organization, it must be approved by the Student Government Association and the Administrative Council of the University. Below are listed those organizations which are presently recognized as extra-curricular groups on the Indiana campus.

CLUBS AND ORGANIZATIONS

American Chemical Society
American Guild of Organists
Art Club
Association for Childhood Education
Basketball Club
Campus 4H Club
Chess Club
Classics Club
Defense Supply Association
Democratic Club
English and Speech Club
Fencing Club—Women
Foreign Language Club
Foreign Students' Club
Geographical Society
Gymnastics Club
Health and Physical Education Majors Club—Women
Home Economics Club
International Relations Club and WUS
Junior Chamber of Commerce
Kaydeens
Mathematics Club
McKeldin Philosophy Society
Men's Student Leagues
Men's Varsity "I"
Music Educators Club
Nurses Club
Non-Resident Women's League
Orchesis Club
Pershing Rifles
Physics Club
Psychology Club
Ranger Company
Republican Club
Rifle Team
Safety Club
Science Club
Social Science Society
Special Education Club
Speech and Hearing Therapy Club
Student PSEA-NEA
Student Government
Student Union Board
The Masquers
Unidentified Flying Objects
University Slide Society
University Drama Club
Volleyball Club—Women
Women's Athletic Association
Women's Collegiate Association
Women's Judicial Board

CLASS ORGANIZATIONS

Each of the four classes—Freshman, Sophomore, Junior, and Senior—has a class organization, holds social and professional meetings, and sponsors a formal dance each year.

FRATERNITIES

Honorary —
Alpha Psi Omega, honorary dramatic
Chi Beta Phi, honorary science
Delta Omicron, honorary music for women
Delta Phi Delta, honorary art
Gamma Rho Tau, honorary for business men
Gamma Theta Upsilon, honorary geography
Kappa Delta Pi, honorary educational
Kappa Mu Epsilon, honorary mathematics
Kappa Omicron Phi, honorary home economics
Phi Mu Alpha Sinfonia, Music Fraternity of America, for male music students
Pi Gamma Mu, honorary social science
Pi Omega Pi, honorary business
Sigma Alpha Eta, honorary for speech and hearing
Service —
Alpha Phi Omega, men's service
Phi Alpha Theta
National History, honorary society

Social —
Panhellenic Association Women
Alpha Delta Pi
Alpha Gamma Delta
Alpha Omega Pi
Alpha Phi
Alpha Sigma Alpha
Alpha Sigma Tau
Alpha Xi Delta
Delta Zeta
Phi Lambda Chi
Phi Mu
Sigma Kappa
Sigma Phi Sigma
Sigma Sigma Sigma
Zeta Tau Alpha
Inter-Fraternity Council Men
Delta Gamma Nu
Delta Sigma Phi
Kappa Delta Rho
Phi Sigma Kappa
Sigma Phi Epsilon
Sigma Tau Gamma
Tau Kappa Epsilon
Theta Chi
Theta Xi

RELIGIOUS LIFE

The religious life of students is cared for through the activities of some twelve independent organizations. Four of these, the Newman Club, Westminster Fellowship, Wesley Foundation, and Lutheran Center, maintain private meeting facilities near the campus. Others affiliate with and meet in local churches. For those groups too small to arrange their own needs, the university undertakes to provide limited facilities and faculty advisement.

In addition to the denominational emphasis of these groups, selected programs in the University Cultural Affairs series are devoted to religious topics. The annual Christmas Pageant, a cultural event primarily musical in nature, has become a tradition and attracts much attention in December.

All students are urged to attend their choice of the many community places of worship and to participate in the area, district, and national conferences which provide opportunity for the study of religious problems.

STUDENT GOVERNMENT

Student Government Association. Student Government Association is composed of representatives from all areas of the university. The President, the Vice-President, and the members of the Student Government Association are elected annually in a campus-wide election held in late fall. The Student Government Association is active in making recommendations to the Administration for the improvement of student welfare and is also active in promoting the general welfare of the university and good community relationships. The Student Government Association provides an opportunity for discussion of student problems, brings the student body, faculty, and administration closer together through a frank understanding of mutual problems and promotes the observance of policies that will lead to improvement of university campus life.

ATHLETICS

Both in terms of a variety of sports sponsored and complete facilities in which to sponsor them, the Indiana University of Pennsylvania athletic program can compare favorably to that of any college or university of similar enrollment.

In each season of the academic year the university sponsors at least two varsity sports simultaneously under the general direction of athletic director Charles L. Klausing. There are a total of nine sports sponsored.

Football and cross country are featured in the fall, while basketball, wrestling, swimming and rifle take the stage in the winter, and baseball, track and field, golf and tennis hold the spotlight in the spring.

Along with varsity squads in the respective sports, there are also football, basketball, wrestling and baseball teams which compete on the freshman or junior varsity level.

A well organized and varied program of intramural sports and athletic activities is conducted for both men and women. Organized league play is held in touch football, basketball, volleyball, swimming, and wrestling for men. Women compete in basketball, volleyball, badminton, swimming, and tennis. Coed activities are held in volleyball and badminton. Women also participate in a number of play days with other colleges and universities.

Memorial Field House and Waller Gymnasium are also used extensively for informal recreational play by students and faculty. Memorial Field House is open seven days a week for student use.

Crowned by the new two million dollar Memorial Field House dedicated in 1966 and also including the spacious six thousand seat George P. Miller Stadium completed in 1962, the physical plant for athletics at the south end of campus is complimented for intramurals by Waller Gymnasium and various other playing fields.

Both in terms of a variety of sports sponsored and complete facilities in which to sponsor them, the Indiana University of Pennsylvania athletic program compares favorably with other universities of similar enrollment.

In each season of the academic year, the University sponsors at least three varsity sports under the general direction of Charles Klausing, Director of Athletics. There are a total of ten sports sponsored.

Football, cross country, and rifle are featured in the fall. While basketball, swimming, and wrestling are offered in the winter, and baseball, track & field, golf, and tennis are featured in the spring. Along with the varsity squads . . . level.

Women participate in varsity volleyball and basketball during the fall and winter.

INTRAMURALS
WOMEN - MEN

A well organized and varied program of intramural sports and athletic activities is conducted for both men and women. Women compete in basketball, volleyball, badminton, swimming, and tennis. Coed activities are held in volleyball and badminton. Men participate in the following activities.

Fall Sports	**Type**
Golf	M
Touch Football	RR
Archery	RR
Horseshoes	RR
Cross Country	M
Foul Throw	C

Winter Sports	**Type**
Bowling	RR
Handball	RR
Basketball	RR
Badminton	RR
Paddleball	RR
Volleyball	RR

Spring Sports	Type
Table Tennis	RR
Swimming	M
Wrestling	M
Track	M
Softball	RR
Pocket Billiards	RR

Legend: RR—Round Robin M—Meet C—Contest

An intramural handbook is available for all male students. Contact Dr. Louis Sutton, Intramural Director.

Memorial Field House and Waller Gymnasium are also used extensively for informal recreational play by students and faculty. Memorial Field House is open seven days a week for student use.

PUBLIC TRANSPORTATION

The community of Indiana is serviced by Edwards Lakes-To-Sea System, Lanich Bus Lines, and Grove City Bus Lines. Connections can be made with other major bus lines. Taxicab service is provided by two taxi companies. Approximately ten modern motels offer overnight accommodations.

INSURANCE

The Indiana University of Pennsylvania Board of Trustees instituted mandatory student accident and health insurance at the University effective September, 1963. It is realized, however, that some of the freshman class students are covered by hospitalization policies of their parents. Where this is the case and additional coverage under the Indiana University of Pennsylvania student insurance plan is not desired, a waiver card can be submitted at the time of registration. The plan has been designed to protect all full-time students at the university. Full information concerning this insurance coverage is mailed to prospective students with their registration material.

SUMMARY OF ENROLLMENT FIRST SEMESTER 1968-69

Full-Time Undergraduate Students

	Men	Women	Total	
Indiana Campus	3,026	3,753	6,779	
Armstrong County Center	205	289	494	
Punxsutawney Center	124	165	289	
Total Full-Time Students	3,355	4,207	7,562	7,562

Part-Time Undergraduate Students

Indiana Campus	238	403	641	
Armstrong County Center	15	36	51	
Punxsutawney Center	8	12	20	
Total Part-Time Students	261	451	712	712
Graduate Students	465	367	832	832
GRAND TOTAL	4,081	5,025	9,106	9,106

PROGRAMS OF STUDY

Students at Indiana University of Pennsylvania may pursue programs of study in any one of the eight schools. A student may earn the degree of Bachelor of Arts, Bachelor of Science, Bachelor of Fine Arts or Bachelor of Science in Education. For each degree the student must earn 124 semester credits with an overall "C" average, in addition to meeting all other degree requirements for graduation.

DEPARTMENTAL ABBREVIATIONS

The following departmental abbreviations are used to identify courses referred to in this catalog.

Anth—Anthropology
Art—Art
Bio—Biology
BE—Business Education
Bus—School of Business
BM—Business Management
Chem—Chemistry
Crmn—Criminology
DE—Distributive Education
Econ—Economics
Ed—Education
EdPsy—Educational Psychology
El—Elementary
Eng—English
FL—Foreign Languages
Fr—French
Geo—Geography
Geos—Geoscience
Ger—German
HE—Home Economics
Hist—History
HPe—Health & Physical Education
IE—International Education
Lat—Latin
LRes—Learning Resource
Math—Mathematics
MS—Military Science
Mus—Music
Phil—Philosophy
Phys—Physics
PolS—Political Science
Psy—Psychology
PSN—Public School Nursing
Rus—Russian
Sci—Science
Soc—Sociology
Sp—Spanish
SpE—Education for Mentally Retarded
SpH—Speech Pathology & Audiology
SpR—Rehabilitation Education
SS—Social Studies
Zool—Zoology

KEY FOR COURSE NUMBERS

Courses for freshmen are numbered in the 100's, sophomores in the 200's, juniors in the 300's and seniors in the 400's.

Required courses are numbered between 1 and 50 and elective courses are numbered between 51 and 100, within each 100.

Elective courses open to sophomores, juniors, and seniors are listed in the 200's. Elective courses open to juniors and seniors are listed in the 300's.

General Education

The primary objective of general education is to develop those understandings, attitudes and values, and social skills that will enable the student to enjoy a life that is satisfying to himself as an individual and which will enable him to play a constructive role in his community and in society without respect to his professional or vocational interest or activity.

The following program in general education will be taken by all students. The courses in this program will be distributed throughout the four years of university study. Only basic or introductory courses in the program will be concentrated in the first two years of the student's program.

Numerous electives are offered in the General Education program to enable each student to explore subjects of particular interest. The student is free to exercise his own choice among the listed electives, although the department in which he is majoring may **recommend** that a student select a specific course.

GENERAL EDUCATION PROGRAM

HUMANITIES

	19-22 credits
Eng 101, Eng 102 English I and II	8
English 201 Literature I	2
(Tragic Themes in Literature) or	
English 301 Literature II	
(Literature of Social Criticism)	
Art 101 Introduction to Art or	3
Music 101 Introduction to Music or	
English 103 Introduction to Theater	
Foreign Language *Foreign Language	6
(Completion of intermediate sequence)	

General Electives—Students who do not take Foreign Language may elect 3 courses from the following list or 2 from this group and 1 from the General Electives in Natural Science. Students who take Foreign Language must elect 1 from the General Electives list for either Humanities or Natural Science.

Phil 328 Aesthetics
Art 115 Art History I or
Art 116 Art History II
Hist 101 History of Civ. I
Phil 221 Logic
Eng 271 Modern American Fiction
Mus 301 Music History I
Phil 120 Intro to Philosophy
Eng 261 The English Bible as Lit
Phil 110 World Religions
Phil 222 Ethics

NATURAL SCIENCE AND MATHEMATICS

	11-14 credits
Mathematics	3
Laboratory Science	8

The eight-credit laboratory science requirement in General Education may be met by any of the following:

Bio 103 Gen. Biology I
Bio 104 Gen. Biology II
Chem 111 Gen. Chemistry I
Chem 112 Gen. Chemistry II
Sci 105 Physical Science I
Sci 106 Physical Science II
Phys 111 Physics I
Phys 112 Physics II

General Electives:
Geos 111 Solar System
Geos 112 Stellar Astronomy
Math 366 Computer Math I
Math 362 Probability and Statistics
Geos 121 Physical Geology
Geos 122 Historical Geology

SOCIAL SCIENCE

Each student will elect 5 courses from the following: 15 credits

Pol. Sci. 111 American Citizenship
Anth 110 Intro to Anthropology
Econ 101 Basic Economics
Geo 101 World Geography
Crmn 101 Adm. of Justice
Hist 102 History of Civ II
Hist 104 Hist of US & Pa. II**
Psy 201 General Psychology**
Soc 151 Principles of Sociology
IE 101 World Politics

* Required of all Liberal Arts students. Optional for other students.
** Required of School of Education students.

PHYSICAL EDUCATION or R.O.T.C. 4 credits

Physical Education (Men) ..... 1 credit
(Two semesters of Physical education are required for all male students. Credit = ½ credit hour per semester).
Military Science 3 credits

HPE 101 Physical Education I ..... ½ credit
HPE 111 Physical Education II ..... ½ credit

Physical Education (Women) ..... 4 credits

HPE 101 Personal and Community Health 2 credits
HPE 102 Physical Education I 1 credit
Swimming—Badminton or
Swimming—Tennis
Swimming—Basketball
HPE 201 Physical Education II 1 credit
or Fencing—Volleyball
HPE 202 Physical Education II 1 credit
or Archery—Dance
HPE 203* Physical Education II 1 credit
Bowling—Golf

THE SCHOOL OF ARTS AND SCIENCES

Ever since man began to systematize knowledge, a liberal education — which Mark Van Doren defines as "nothing less than a complete one" — has enjoyed wide acceptance and support. With society's current emphasis on change, a broad liberal education is now virtually a necessity. Thus, today's statesman must be skilled not only in political science and history; he also should be knowledgeable in economics, geography, science and sociology in order to cope effectively with the intricate problems of modern statecraft.

The philosophy which undergirds the Liberal Arts program is the emphasis upon a fundamental understanding and application of basic principles implemented by the deliberative method of teaching which stresses the quality rather than the rate of learning. Consequently, our staff consciously endeavors not only to impart an appreciation of culture and the comprehension of our environment, but also to teach the student to analyze and to solve problems so that ultimately he may be able to teach himself.

The program of studies in the School of Arts and Sciences is designed to enable the student to pursue a general program, a study in depth within a chosen subject, an interdisciplinary program or a pre-professional program of study. All students in this school are required to take the program of general education of 52 semester hours as outlined on page . Each student also must elect a major in one of the subject fields in the Humanities, Natural Sciences or the Social Sciences. He may also elect a minor in a field approved by his adviser.

Students in the Liberal Arts program may receive either the Bachelor of Arts or Bachelor of Science degree depending on their program of study. Students majoring in the Humanities and Social Sciences will be awarded the A.B. degree, whereas Natural Science majors who complete the prescribed requirements for a single area of concentration may receive the B.S. degree or the A.B. degree depending upon the program elected.

Humanities	Natural Sciences
English, Speech-Theater	Biology
Foreign Languages	Chemistry
Philosophy	Mathematics
	Medical Technology
	Physics
	Geoscience

Social Sciences

Economics	Psychology
History	Geography
Criminology	Political Science
Geography	Sociology-Anthropology

Inter-disciplinary Studies

Students with dual or special objectives may, with the guidance and approval of his department and the Dean, undertake an inter-disciplinary program. One example of this type of program which has been established with well-defined requirements is that in Urban-Regional Planning and Administration as outlined on page . This is an integrated Social Sci-

ence program which equips the students for vocational opportunities in a rapidly expanding field. Another type of inter-disciplinary program is illustrated by the study of a cultural area such as Latin America which would require the selection of courses in History, Language, Geography, Art, Literature and Political Science from both the Humanities and the Social Sciences. Other inter-disciplinary programs can be tailored for the various fields of student interests.

Pre-Professional Studies

Indiana University of Pennsylvania is accredited not only by the National Council for Accreditation of Teacher Education but by the Middle States Association of Colleges and Secondary Schools and The American Association of University Women as well. It is on the basis of the latter accreditation that pre-professional programs of study are offered for admission to Medical, Dental, Theological and Law Colleges. These pre-professional programs of study are planned in consultation with advisers and the Dean.

FOREIGN STUDY PROGRAMS

The University supports several foreign study programs for which varying amounts of credit are given toward a baccalaureate degree. Students should consider these programs as a possible means of combining foreign travel and study. Since each program carries different credit provisions, students are urged to plan their four-year program several years in advance if they propose to participate in any foreign study arrangement.

Junior Year Abroad. Indiana has combined with thirty-eight colleges and universities in Eastern Ohio, West Virginia and Western Pennsylvania to offer a Junior Year Abroad program for students in the Humanities and Social Sciences. For this purpose the Regional Council For International Education operates a college in Basel, Switzerland where courses in language, art, literature, and national-international issues are taught in English. Students are housed with Swiss families and are encouraged to do extensive traveling during seven weeks of scheduled vacations. A comprehensive fee covering trans-Atlantic travel, tuition, housing and food for the year has been fixed at $2490 for 1968-69. Students will earn 30 semester hours of credit. Interested students should consult with the Coordinator, Social Science Division.

Indiana At Valladolid. For the past seven years Indiana University has sponsored a semester of study at the University of Valladolid, Spain. For details see the description under the Department of Foreign Languages and request annual brochure from the department chairman.

Contemporary Europe. For the past several years Indiana University has sponsored a three or six-week study-travel tour during the summer months. Designed for students in every department of the University, this tour emphasizes the basic political, economic, social, and military organization of contemporary Western Europe and the unresolved tensions of that part of the world. Background reading, lectures in major capitals, sight-seeing, and an extensive personal diary are required. Three hours of graduate-undergraduate credit is granted. In 1969 the group will visit Moscow, Leningrad, Kiev, Helsinki, Stockholm, Oslo, Bergen, and Copenhagen. A comprehensive fee covering trans-Atlantic transportation, housing and meals has been fixed at $869 in 1969. Interested students should consult with the Coordinator, Social Science Division.

International Studies

A Center for International Studies has been established by the University. The center offers a program leading to a Bachelor of Arts Degree for students interested in this field. A program of studies is fully described within this section of the catalog.

HUMANITIES

The Humanities comprise those branches of learning which are primarily cultural in character. In addition to developing communication skills, the Humanities program enhances one's capacities of logic, moral values and imagination. The Humanities also broaden and enrich a student's appreciation of literature, art, music and philosophy. And as Matthew Arnold so aptly stated: "We shall find that this art, and poetry, and eloquence, have in fact not only the power of refreshing and delighting us, they have also a fortifying, and elevating, and quickening, and suggesting power, capable of wonderfully helping us to relate the results of modern science to our need for conduct, our need for beauty."

ENGLISH

CRAIG G. SWAUGER, Chairman

A candidate for the A.B. degree in English usually chooses this program because he wishes a broad undergraduate education in liberal studies. He may intend to prepare for graduate study in English for eventual college teaching or for other non-academic professions. The A.B. degree program does not lead to certification in secondary English.

After satisfying the major requirement of thirty hours in required and elective English courses, (not including English 101 and English 102) a student may select a minor of at least

fifteen hours in any one of several fields, such as history, philosophy, psychology, or foreign languages.

FIRST SEMESTER		
Eng 101	English I	4
Biol 103	Biological Science I, or	
Sci 103	Physical Science I	4
	*Foreign Language	3
HPe 101	Health (women),	2
	or	
MS 101	Military Science I	1½
	Social Science Elective	3
		15½-16

SECOND SEMESTER		
Eng 102	English II	4
Biol 104	Biological Science II, or	
Sci 104	Physical Science II	4
HPe 102	Physical Education (women)	1
	or	
MS 102	Military Science I	1½
	*Foreign Language	3
	Social Science Elective	3
		15-15½

THIRD SEMESTER		
Eng 211	Classical Literature	3
Art 101	Introduction to Art, or	
Mus 101	Introduction to Music, or	
Eng 103	Introduction to Theatre	3
	*Foreign Language	3
HPe 203	Physical Education II (women)	1
	Physical Activity (men)	½
	Social Science Elective	3
	Humanities, or	
	Natural Science Electives	3
		15½-16

FOURTH SEMESTER		
Eng 212	American Literature to 1865	3
Math 101	Foundations of Math	3
Eng 214	Shakespeare	3
	Physical Activity (men)	½
	*Foreign Language	3
	Social Science Elective	3
		15-15½

FIFTH SEMESTER		
Eng 213	Pre-Renaissance	3
	Major Electives	6
	Minor Electives	3- 6
	Free Electives	3- 6
		18

SIXTH SEMESTER		
Eng 251	History of Eng. Language	3
	Minor Electives	3- 6
	Major Electives	6
	Free Electives	0- 3
		15

SEVENTH SEMESTER		
	Major Electives	3- 6
	Minor Electives	3- 6
	Free Electives	3- 6
		15

EIGHTH SEMESTER		
	Major Electives	3- 6
	Minor Electives	3- 6
	Free Electives	3- 6
		15

* English majors may complete the intermediate sequence in a modern foreign language in one of three ways: by examination, by earning credit in 3rd and 4th semesters of a language begun in secondary school, or by completing 4 semesters of a new language.

A candidate for the A.B. degree with a major in English will need at least 30 hours from the following list of courses.

REQUIRED

Eng 211 Classical Literature (instead of Eng 201 or Eng 301; one credit counted)
Eng 212 American Literature to 1865
Eng 213 Pre-Renaissance
Eng 214 Shakespeare
Eng 251 History of the English Language

ELECTIVE COURSES

Eng 215 The Augustans
Eng 216 Romantic Movement
Eng 217 Victorian Literature
Eng 218 Age of Spenser
Eng 219 Age of Milton
Eng 224 The Metaphysical Poets
Eng 238 Nature of Drama
Eng 241 The Rise of the English Novel
Eng 242 American Novel
Eng 243 Contemporary Short Fiction
Eng 244 Poetry and Its Forms
Eng 245 Modern Drama
Eng 246 Modern American Literature
Eng 248 The Age of Johnson
Eng 261 The English Bible as Literature
Eng 271 Modern American Fiction
Eng 351 English Drama to Restoration
Eng 353 Restoration Literature
Eng 355 Modern European Literature
Eng 356 English Essayists
Eng 357 The English Novel: Conrad to the Present
Eng 358 Criticism of Contemporary Writing
Eng 359 Seminar in English Studies
Eng 360 The Nineteenth Century English Novel
Eng 363 The Structure of English
Eng 364 Trends in Linguistics

SPEECH AND THEATER

A candidate for the A.B. degree with a major in Speech and Theater must satisfy the intermediate sequence in a foreign language and have at least 30 credits from the following courses:

REQUIRED

Eng 214 Shakespeare
Eng 231 Dramatic Arts
Eng 232 Oral Reading
Eng 238 The Nature of Drama

ELECTIVES

Eng 245 Modern Drama
Eng 351 English Drama to the Restoration
Eng 353 Restoration Literature
Eng 371 Directing and Play Production
Eng 377 Creative Dramatics and Story Telling
Eng 378 Costume and Makeup
Eng 379 Stagecraft and Scenic Design
Eng 381 Fundamentals of Acting
Eng 469 Oral Interpretation
Eng 472 Public Speaking

Note: The major in Speech and Theater is required to spend at least one summer in The Drama Workshop during the pre-session and main session of the summer school.

The major in Speech and Theater will elect a minor of at least fifteen hours in another field.

FOREIGN LANGUAGES

CHARLES W. FAUST, Acting Chairman

The Department of Foreign Languages currently offers a complete undergraduate program in French, German, Latin, Russian, and Spanish, as well as an elementary and intermediate sequence in Chinese and Classical Greek.

In the course of his study of a foreign language as an element of general education, the non-major student will acquire:

1. Some command of the language with primary stress on comprehension of the printed page, reasonable accuracy in pronunciation, some oral skill, and basic facts of structure.
2. Some knowledge of the facts of political and cultural history of the area where the language is spoken.
3. Some comprehension of current problems, trends, and directions of this area.
4. A better understanding of language as a condition and tool of mankind, its nature, functions, and relationships.
5. Development of greater understanding and tolerance of other cultures and their characteristic points of view.

Those who major in a foreign language acquire active skill in all phases of the language, enter more deeply into the history, culture, and literature of which it is the vehicle, and gain some comprehension of its historical development.

Students who specialize in a modern foreign language are better prepared for careers in government work, librarianship, and journalism. Those students who elect to do further graduate work in their languages may thereby prepare themselves for a career in college teaching. If they prefer teaching in the secondary area, they may gain excellent preparation and satisfy formal requirements for certification by entering into the Master of Arts in Education program which is offered by several leading graduate institutions.* Finally, language competence is a distinct asset in the business and industrial world, especially to those involved in foreign trade and overseas operations.

Freshmen can elect a foreign language major even though they may not have had previous instruction in the language of their choice or, indeed, in any foreign language. In most cases, to be sure, a student electing foreign languages as an area of concentration will have had at least two years of the language of his choice in high school. He will then begin with the sequence of 251-252 and will take concurrently with those courses

053-054, Oral Practice III and IV. If he has not had the language of specialization in high school, he will begin with 151-152 and 051-052, Oral Practice I and II. An area of concentration requires a minimum of 36 semester hours excluding 151-152 or the equivalent courses in high school. It is recommended that a student concentrating in one foreign language also complete at least the intermediate sequence in a second language, particularly if he is looking forward to graduate work. The second language will normally be started in the sophomore year or the preceding summer session.

*A graduate program leading to the Master of Education degree with major curriculum concentration in Spanish was initiated at the Indiana University of Pennsylvania in 1967.

DEPARTMENT OF FOREIGN LANGUAGES

School of Arts and Sciences*

FIRST SEMESTER

Eng	101	English I	4
Biol	103	General Biology I or	
Chem	111	General Chemistry I or	
Sci	105	Physical Science I or	
Phys	111	Physics I	4
HPe	101	Health (women)	2
MS	101	Military Science I (men)	1½
FL	251	Language III	3
FL	053	Oral Practice III	2
HPe	110	Phys. Ed. (men)**	½
			15

SECOND SEMESTER

Eng	102	English II	4
Biol	104	General Biology II or	
Chem	112	General Chemistry II or	
Sci	106	Physical Science II or	
Phys	112	Physics II	4
HPe	102	Physical Ed. I (women)	1
MS	102	Military Science II (men)	1½
Art	101	Intro. to Art or	
Mus	101	Intro. to Music or	
Eng	103	Intro. to Theater	3
FL	252	Language IV	3
FL	054	Oral Practice IV	2
			women 17
			men 17½

THIRD SEMESTER

Eng	201	Lit. I (Tragic Themes in Literature) or	
Eng	301	Lit. II (Lit. of Social Criticism)	2
Hist	101	Hist. Civ. I	3
HPe	203	Physical Ed. II (women)	1
FL	351	Advanced Language I	3
FL	055	Advanced Oral Pract. I	1
FL	361	Culture and Lit. I	3
		Free Elective (women)	3
		Free Electives (men)	6
			women 16
			men 18

FOURTH SEMESTER

Hist	102	Hist. Civ. II	3
Math	101	Found. of Math	3
FL	352	Advanced Lang. II	3
FL	056	Advanced Oral Pr. II	1
FL	362	Culture and Lit. II	3
		Free Elective	3
HPe	111	Phys. Ed. (men)**	½
			women 16
			men 16½

FIFTH SEMESTER

Hum. or Nat. Sci. Elective	3
Soc. Sci. Elective	3
FL Elective	3
Free Electives	6- 9
	15-18

SIXTH SEMESTER

Hum. or Nat. Sci. Elective	3
Soc. Sci. Elective	3
FL Elective	3
Free Electives	6- 9
	15-18

SEVENTH SEMESTER		EIGHTH SEMESTER	
Soc. Sci. Elective	3	Soc. Sci. Elective	3
FL Elective	3	FL Elective	3
Free Electives	9	Free Electives	9
	15		15

* Applicable to entrants of Summer 1967 (including ABC students) and thereafter. Students entering with 2 or 3 high school credits should start with 251 and 053. Veterans with two years of active service will be exempted from the ROTC and Health and Phys. Ed. requirement.

** HPe 110 and HPe 111 (½ credit each) applies to male freshmen of September 1968 and thereafter.

DEPARTMENT OF FOREIGN LANGUAGES

School of Arts and Sciences

Required Courses

FL 251-252 Language III-IV	3 cr. each
FL 053-054 Oral Practice III-IV	2 cr. each
FL 351-352 Advanced Language I-II	3 cr. each
FL 055-056 Advanced Oral Practice I-II	1 cr. each
FL 361-362 Development of culture & Lit. I-11	3 cr. each
Required FL Electives	12 credits
	36

MUSIC

HUGH JOHNSON, Chairman

The Liberal Arts student who desires to concentrate in Music has the choice of three options: Music Literature, Music Performance and Music Theory. The programs in these three phases of music for the Liberal Arts student are designed to give the student a considerable but not necessarily professional experience in depth in each phase. The student who chooses to concentrate in Theory will not become a composer, but he will acquire a fuller understanding of the art of music and its function in our culture. Similar statements could also be made in regard to the concentrations in Music Literature and in Musical Performance.

The Liberal Arts student will not be preparing specifically for a vocation of further study, but rather for a deep and broad understanding of the culture in which he must live. However, by its very nature, it will be an excellent base for graduate study in the area of concentration and a fine background for a rich cultured life.

Music Performance Concentration

FIRST SEMESTER

Eng 101	English I	4
Eng 232	Oral Reading	3
HPe 101	Health I or	2
MS 101	Military Science I	1½
Mus 111	Sight Singing I	2
Mus 115	Harmony I	3
Mus 113	Ear Training I	1
	Private Instruction/Voice	2
		16½-17

SECOND SEMESTER

Eng 201	English II	4
Math 101	Foundations of Math	4
MS 102	Military Science I	1½
Mus 112	Sight Singing II	2
Mus 116	Harmony II	3
Mus 114	Ear Training II	1
	Private Instruction/Voice	2
		17-18

THIRD SEMESTER

Eng 238	Nature of Drams	3
FL	Foreign Language*	3
Geog 101	World Geography	3
Art 115	Art History I	3
HPe 102	Physical Ed. I (women)	1
Mus 215	Harmony III	3
	Private Instrument or Voice	2
		17-18

FOURTH SEMESTER

Psy 201	General Psychology	3
FL	Foreign Language*	3
Art 116	Art History II	3
HPe 103	Physical Ed. II (women)	1
Mus 216	Harmony IV	3
Mus 301	Music History I	3
	Private Instrument or Voice	2
		17-18

FIFTH SEMESTER

FL	Foreign Language*	3
Biol 103	General Biology I	
Sci 105	Physical Science	4
Eng 301	Introduction to Literature	2
	Private Instrument or Voice	2
	Electives	4
PHe 110	Phys. Ed. (men)	½
		15-15½

SIXTH SEMESTER

FL	Foreign Language*	3
Biol 104	General Biology II	
Sci 106	Physical Science	4
Eng 214	Shakespeare	3
	Private Instrument or Voice	2
	Electives	3
PHe 111	Phys. Ed. (men)	½
		15-15½

SEVENTH SEMESTER

Phil 120	Intro. to Philosophy or	
Anth 110	Intro. to Anthropology	3
Hist 102	History of Civilization II	3
Phil 221	Logic	3
Hist 104	History of U.S. and PA. II	3
	Private Instrument or Voice	2
	Elective	2
		16

EIGHTH SEMESTER

Phil 222	Ethics	3
PolS 111	American Citizenship	3
Eng 251	History of Eng. Language	3
	Private Instrument or Voice	2
	Electives	4
		15

* A two semester sequence.

Music Theory Concentration

FIRST SEMESTER

Eng 101	English I	4
Eng 232	Oral Reading	3
HPe 101	Health I or	2
MS 101	Military Science I	1½
Mus 111	Sight Singing I	2
Mus 115	Harmony I	3
Mus 113	Ear Training I	1
		14½-15

SECOND SEMESTER

Eng 201	English II	4
Math 101	Foundations of Math	4
MS 102	Military Science I	1½
Mus 112	Sight Singing II	2
Mus 116	Harmony II	3
Mus 114	Ear Training II	1
		14-15½

THIRD SEMESTER

Eng 238	Nature of Drama	3
FL	Foreign Language*	3
Geog 101	World Geography	3
Art 115	Art History I	3
HPe 102	Physical Ed. I (women)	1
Mus 215	Harmony III	3
HPe 110	Physical Ed. I (men)	½
		15½-16

FOURTH SEMESTER

Psy 201	General Psychology	3
FL	Foreign Language*	3
Art 116	Art History II	3
HPe 103	Physical Ed. II (women)	1
Mus 216	Harmony IV	3
Mus 301	Music History I	3
HPe 111	Physical Ed. II (men)	½
		15½-16

FIFTH SEMESTER

FL	Foreign Language*	3
Biol 103	General Biology I or	
Sci 105	Physical Science I	4
Eng 301	Introduction to Literature	2
Mus 306	Counterpoint I	2
Mus 309	Orchestration I	2
Mus 302	Music History II	3
		16

SIXTH SEMESTER

FL	Foreign Language*	3
Biol 104	General Biology II or	
Sci 106	Physical Science II	4
Eng 214	Shakespeare	3
Mus 307	Counterpoint II	2
Mus 310	Orchestration II	2
Mus 303	Music History III	3
		17

SEVENTH SEMESTER

Phil 102	Intro. to Philosophy or	
Anth 110	Intro. to Anthropology	3
SS 102	History of Civilization II	3
Phil 221	Logic	3
SS 104	History of U.S. and Pa. II	3
Mus 441	Composition I	2
Mus 308	Fugue and Canon	2
		16

EIGHTH SEMESTER

Phil 222	Ethics	3
PolS 111	American Citizenship	3
Eng 251	History of English Language	3
Mus 412	Composition II	2
	Electives	5
		16

Music Literature Concentration

FIRST SEMESTER

Eng 101	English I	4
Eng 232	Oral Reading	3
HPe 101	Health I or	2
MS 101	Military Science I	1½
Mus 111	Sight Singing I	2
Mus 115	Harmony I	3
Mus 113	Ear Training I	1
		15½-16

SECOND SEMESTER

Eng 201	English II	4
Math 101	Foundations of Math	4
MS 102	Military Science I	1½
Mus 112	Sight Singing II	2
Mus 116	Harmony II	3
Mus 114	Ear Training II	1
		14-15½

THIRD SEMESTER

Eng 238	Nature of Drama	3
FL	Foreign Language*	3
Geog 101	World Geography	3
Art 115	Art History I	3
HPe 102	Physical Education I	1
Mus 215	Harmony III	3
HPe 110	Physical Ed. I (men)	½
		15½-16

FOURTH SEMESTER

Psy 201	General Psychology	3
FL	Foreign Language*	3
Art 116	Art History II	3
HPe 103	Physical Education II	1
Mus 216	Harmony IV	3
Mus 301	Music History I	3
HPe 111	Physical Ed. II (men)	½
		15½-16

FIFTH SEMESTER

FL	Foreign Language*	3
Biol 103	General Biology I or	
Sci 105	Physical Science I	4
Eng 301	Introduction to Literature	2
Mus 302	Music History II	3
	Electives	5
		17

SIXTH SEMESTER

FL	Foreign Language*	3
Biol 104	General Biology II or	
Sci 106	Physical Science II	4
Eng 214	Shakespeare	3
Mus 303	Music History III	3
	Music Literature Elective	3
		16

SEVENTH SEMESTER

Phil 120	Intro. to Philosophy or	
Anth 110	Intro. to Anthropology	3
Hist 102	History of Civilization II	3
Phil 221	Logic	3
Hist 104	History of U.S. and Pa. II	3
	Music Literature Elective	3
		15

EIGHTH SEMESTER

Phil 222	Ethics	3
PolS 111	American Citizenship	3
Eng 251	History of English Language	3
	Music Literature Elective	3
	Electives	5
		17

* A two semester sequence.

Students must pass a piano proficiency jury examination in all these areas of concentration.

PHILOSOPHY

ROBERT M. HERMANN, Chairman

Studies in philosophy should better equip any student to handle the theoretical issues which confront him, though final answers to the special questions of ethics, aesthetics, metaphysics, epistemology, and logic are not easily agreed upon. Many of the proposed solutions have had great influence on human history and should be studied for this reason if for no other. But because no thinking person can long escape private confrontation with philosophic problems we would insist with William James that "To know the chief rival attitudes towards life, as the history of human thinking has developed them, and to have heard some of the reasons they can give for themselves, ought to be considered an essential part of liberal education . . . A man with no philosophy in him is the most inauspicious and unprofitable of all possible social mates."

Students may take either a major or minor in the Philosophy Department. Those concentrating in other areas are encouraged to program electives in philosophy which relate to their primary fields. (See course description section.)

Requirements for the Major			Requirements for the Minor	
Phil. 120	Intro. to Philosophy	3 cr.	.....	3 cr.
Phil. 221	General Logic	3 cr.	.....	3 cr.
Phil. 222	Ethics	3 cr.	.....	3 cr.
Phil. 324	History of Philosophy I ..	3 cr.	.....	3 cr.
Phil. 325	History of Philosophy II .	3 cr.	.....	3 cr.
Phil. 328	Aesthetics	3 cr.		
Phil. 430	Readings Colloquim	3 cr.		
	Departmental Electives ..	12 cr.	.....	6 cr.
		33 cr.		21 cr.

NATURAL SCIENCE

DWIGHT SOLLBERGER, Natural Science Coordinator

The objectives of the Science Departments as they relate to the Liberal Arts program are as follows:

1. To provide all students with the opportunity to secure a sound understanding of the nature of the scientific enterprise and its relationship to society.

2. To give science students a thorough background of knowledge in the specific field of their choice as far as the undergraduate years permit.

3. To provide science students with those skills and attitudes which will enable them to go on successfully to more advanced programs.

The Science Departments believe that science has a very important contribution to make toward the realization of the objectives of the Liberal Arts program. Those qualities that promote science such as critical thinking, respect for truth, objectivity, reasonable skepticism, and a desire for a better knowledge of the natural world are all attributes of the liberally educated individual.

The Science Departments believe that the objectives of the science program are reached through careful study in well-planned courses. The acquisition of knowledge gained by scientists is a first step in understanding the capabilities of science. Investigation in the classroom imparts to the student a knowledge of the methods scientists use to ferret out the secrets of their environment. Students are encouraged to undertake investigations to reach an understanding of the work of scientists. Students are expected to put forth their best efforts to achieve the objectives of the courses and of the science programs.

The Science Departments offer a major in the general area of the Natural Sciences. This major consists of 36 semester hours. However, most students will wish to extend this major by concentrating in one of several areas of Science through selection of suitable electives. These areas are Biology, Chemistry, Science, and Physics. By selecting a field of concentration students will be eligible to enter graduate or professional schools in the area of their choice. Students who plan to continue their studies beyond the undergraduate school should study carefully the requirements of advanced programs and select courses to meet such requirements.

The vocational opportunities created by science have caused many young people to specialize in one of the many areas of Science with the expectancy of finding employment in work which is satisfying intellectually as well as financially. Today this hope is being realized as never before. University graduates who have had thorough preparation in the sciences have little difficulty in finding suitable employment. Some students use their preparation to continue work at the graduate level and qualify to do basic research which may or may not have ready application. Such students may join the staff of universities or research institutions. Others may join the staffs of industries where their knowledge and skills are used to improve the products of industry. Thus students are well-advised to look into the possibility of finding life-long work directly related to their preparation in science at the university level.

BIOLOGY DEPARTMENT

FRANCIS W. LIEGEY, Chairman

Requirements for the A.B. degree with a major in biology.

FIRST SEMESTER

	S.H.
General Biology I	4
General Chemistry I	4
English I	4
Intro. to Art, or	
Intro. to Music, or	
Intro. to Theater	3
Health, or Military Science	2- 1½
	17-16½

SECOND SEMESTER

	S.H.
General Biology II	4
General Chemistry II	4
English II	4
General Elective	3
Health, or Military Science	2- 1½
	17-16½

THIRD SEMESTER

Foreign Language	3
Algebra & Trigonometry	5
Organic Chemistry I	4
Biology Elective	3
HPe 110 Physical Ed. (men)	½
	15½

FOURTH SEMESTER

Foreign Language	3
Genetics	3
Literature I or II	2
Social Science Elective	3
Free Elective	4
HPe 111 Physical Ed. (men)	½
	15½

FIFTH SEMESTER

Ecology	3
Biochemistry	3
Social Science Elective	3
Free Electives	6
	15

SIXTH SEMESTER

Biology Elective	3
Social Science Elective	3
Free Electives	9
	15

SEVENTH SEMESTER

General Physiology	3
Biology Elective	3
Social Science Elective	3
Free Electives	6
	15

EIGHTH SEMESTER

Biology Elective	3
Biology Seminar	1- 3
Social Science Elective	3
Free Electives	6- 8
	15

Requirements for a minor in Biology

	S.H.
General Biology I	4
General Biology II	4
Genetics	3
Ecology	3
General Physiology	3
Biology Elective	3

BIOLOGY DEPARTMENT

FRANCIS W. LIEGEY, Chairman

Requirements for the B.S. degree with a major in biology.

FIRST SEMESTER

	S.H.
General Biology I	4
General Chemistry I	4
English I	4
Intro. to Art, or	
Intro. to Music, or	
Intro. to Theater	3
Health, or Military Science	2- 1½
	17-16½

SECOND SEMESTER

	S.H.
General Biology II	4
General Chemistry II	4
English II	4
General Elective	3
Health, or Military Science	2- 1½
	17-16½

THIRD SEMESTER

Foreign Language	3
Algebra & Trigonometry	5
Organic Chemistry I	4
Biology Elective	3
HPe 110 Physical Ed. I (men)	½
	15½

FOURTH SEMESTER

Foreign Language	3
Anal. Geom. & Calculus	4
Organic Chemistry II	4
Literature I or II	2
Biology Elective	3
HPe 111 Physical Ed. II (men)	½
	16½

FIFTH SEMESTER

Physics I	4
Biochemistry	3
Ecology	3
Biology Elective	3
Social Science Elective	3
	16

SIXTH SEMESTER

Physics II	4
Genetics	3
Biology Elective	3
Social Science Elective	3
Elective	3
	16

SEVENTH SEMESTER

General Physiology	3
Social Science Elective	6
Electives	6
	15

EIGHTH SEMESTER

Biology Seminar	1- 3
Social Science Elective	3
Electives	6- 8
	12

CHEMISTRY DEPARTMENT

PAUL R. WUNZ, JR., Chairman

In the School of Arts and Sciences the chemistry department offers two majors. One of these majors is the B.S. degree and the other the B.A. degree.

The B.S. degree in chemistry may be considered to be a professional degree. The student completing this major should be qualified to assume a position in industry as a chemist or to apply for admission to graduate school to work for advanced

degrees in chemistry. Anyone considering teaching at the college or university level should plan on obtaining a B.S. degree and also a Ph.D. degree, since practically all universities require their staff members to have a doctorate degree.

The following B.S. curriculum should be at least equivalent to the minimum standards of the American Chemical Society.

B.S. Curriculum for Chemistry (Liberal Arts)

FIRST SEMESTER

	Cr.
Chem 111 Gen. Chem. I	4
Eng 101 English I	4
Math 152 Alg. & Trig.	5
MS 101 Mil. Sci. I, and	1½
HPe 110 Physical Ed. I (men) or	½
HPe 101 Health	2
	15

SECOND SEMESTER

	Cr.
Chem 112 Gen. Chem. II	4
Eng 102 English II	4
Math 157 Anal. Geom. & Cal. I	4
MS 102 Mil. Sci. I, and	1½
HPe 111 Physical Ed. II (men) or	½
HPe 102 Physical Ed. I (women)	2
Art 101 Intro. to Art, or	
Mus 101 Intro. to Music, or	
Eng 103 Intro. to Theater	3
	17

THIRD SEMESTER

Chem 231 Org. Chem. I	4
Math 257 Calc. II	4
Phys 111 Physics I	4
Eng 201 Lit. I, or	
Eng 301 Lit. II	2
Foreign Language I*	3
	17

FOURTH SEMESTER

Chem 232 Org. Chem. II	4
Math 357 Calc. III	4
Phys 112 Physics II	4
Social Science Elective	3
Foreign Language II*	3
	18

FIFTH SEMESTER

Chem 321 Quant. Anal.	4
Chem 341 Phys. Chem. I	4
Math 361 Diff. Eq.	3
Foreign Language III*	3
Social Science Elective	3
	17

SIXTH SEMESTER

Chem 322 Inst. Anal.	4
Chem 342 Phys. Chem. II	4
Chem 301 Seminar	1
Foreign Language IV*	3
Social Science Elective	3
	15

SEVENTH SEMESTER

Chem 411 Inorg. Chem.	3
Chem 498 Prob. in Chem.	1
Chem. Elective	3
Social Science Elective	3
Natural Science Electives	5
	15

EIGHTH SEMESTER

Chem 412 Inorg. Preps.	3
Chem 498 Prob. in Chem.	1
Chem. Elective	3
Social Science Elective	3
Natural Science Electives	5
	15

* Foreign Language—German or Russian.

Social Science Electives
PolS 111 Amer. Citizenship
Anth 110 Intro. to Anthropology
Econ 121 Principles of Economics
Hist 102 History of Civ. II
Hist 104 History of U.S. & Pa. II
Psy 201 General Psychology
Geo 101 World Geography
Soc 151 Principles of Sociology

Natural Science Electives
Biology
Physics
Math
Geology
Chem 303 Glassblowing Tech.
Chemistry Electives
Chem 331 Org. Qual. Analysis
Chem 351 Biochemistry
Chem 333 Org. Mech. & Stereochemistry
Chem 441 Advanced Phy. Chem.
Chem 421 Advanced Inst. Anal.

B.A. Curriculum in Chemistry

The purpose of the B.A. curriculum is to give the student a basic training in chemistry, but with a flexibility to permit the student to obtain an adequate background in related areas. Students electing to take the B.A. curriculum would be those who are most interested in going into industry and perhaps in a fringe area of chemistry such as sales, technical service, patent law, or management. The training should be sufficient to permit the student to go to graduate school but at a slight disadvantage compared to a B.S. chemistry major.

The requirements for a B.A. degree in chemistry would be the university graduation requirements, mathematics through the third semester of calculus, and a maximum of thirty-five (35) hours of chemistry which must include the following courses: Chem. 111, 112, 231, 232, 321, 322, and 341. Based upon the interest of the student the remainder of the curriculum would be decided by the faculty advisor and the student involved.

PHYSICS

RICHARD E. BERRY, Chairman

The physics student has a choice of two curricula in the school of Arts and Sciences. Either of these curricula is suitable preparation for graduate school. A very able student may prefer the B.A. program which contains a larger number of electives. A student wishing to cover the maximum physics to strengthen his speciality before entering Graduate School may prefer the B.S. program. Transfer into these programs from other curricula is possible prior to the junior year. These curricula do not include the education courses required for certification in public school teaching. The curriculum required for certification is described in the School of Education section of this catalog.

B.A. in Physics

This curriculum is designed to allow the maximum flexibility. The large number of elective courses may be used to

satisfy many special requirements. Interdisciplinary degree programs such as geo-physics, or bio-physics can be prepared in consultation with your adviser. Students planning graduate school should consider this curriculum because they will have ample opportunity to complete this training in physics in graduate school.

FIRST SEMESTER

	Cr.
Eng 101 English I	4
HPe 101 Health (women)	2
HPe 110 Physical Ed. (men)	½
MS 101 Military Sci. I (men)	1½
Math 152 Algebra & Trig.	5
Math 155 Computer Programming	1
Phys 111 Physics I (Lecture)	3
Phys 121 Laboratory Physics I	1
	16

SECOND SEMESTER

	Cr.
Eng 102 English II	4
HPe 102 Physical Ed. (women)	1
HPe 111 Physical Ed. (men)*	½
MS 102 Military Sci. I (men)	1½
Math 157 Anal. Geom. & Cal. I	4
Phys 112 Physics II (Lecture)	3
Phys 122 Laboratory Physics II	1
Intro. to Art, Music or Theatre	3
	16-17

THIRD SEMESTER

Math 257 Anal. Geom. & Calc. II	4
Phys 231 Electronics	4
Foreign Language III	3
S. S. Elective 1	3
S. S. Elective 2	3
	17

FOURTH SEMESTER

English Literature I or II	2
Math 357 Calculus III	4
Phys 222 Mechanics I	3
Phys 242 Optics	4
Foreign Language IV	3
HPe 203 Physical Ed. (women)	1
	16-17

FIFTH SEMESTER

Math 361 Differential Equations	3
Phys 331 Atomic & Nuclear Physics	4
Natural Science Sequence	3
S. S. Elective 3	3
Elective	3
	16

SIXTH SEMESTER

Phys 322 Electricity & Magnetism I	3
Natural Science Sequence	3
Philosophy Elective	3
S. S. Elective 4	3
Elective	3
	15

SEVENTH SEMESTER

Phys 421 Selected Experiments I	3
Phys 483 Quantum I	3
Advanced Social Science** or Natural Science Sequence	3
Elective	3
Elective	3
	15

EIGHTH SEMESTER

Advanced Social Science** or Natural Science Sequence	3
S. S. Elective 5	3
Elective	3
Elective	3
Elective	3
	15

* May be taken second year.

** Building on one of the required Social Science courses or the Natural Science Sequence.

B.S. in Physics

The Bachelor of Science curriculum is primarily a concentrated program of specialization in physics and is recommended for those students who may not attend graduate school. The B.S. graduate will have adequate preparation in Physics and Mathematics to hold a position in industrial or private research without further education. In addition, the concentration in these areas will enable him to more readily absorb the advanced physics required in graduate school.

FIRST SEMESTER

	Cr.
Eng 101 English I	4
HPe 101 Health (women)	2
HPe 110 Physical Ed. (men)	½
MS 101 Military Sci. I (men)	1½
Math 152 Algebra & Trig.	5
Math 155 Computer Programming	1
Phys 111 Physics I (Lecture)	3
Phys 121 Laboratory Physics I	1
	16

SECOND SEMESTER

	Cr.
Eng 102 English II	4
HPe 102 Physical Ed. (women)	1
HPe 111 Physical Ed. (men)*	½
MS 102 Military Sci. I (men)	1½
Math 157 Anal. Geom. & Cal. I	4
Phys 112 Physics II (Lecture)	3
Phys 122 Laboratory Physics II	1
Intro. to Art, Music or Theatre	3
	16-17

THIRD SEMESTER

Math 257 Anal. Geom. & Calc. II	4
Phys 231 Electronics	4
Foreign Language III	3
S. S. Elective 1	3
S. S. Elective 2	3
	17

FOURTH SEMESTER

English Literature I or II	2
Math 357 Calculus III	4
Phys 222 Mechanics I	3
Phys 242 Optics	4
Foreign Language IV	3
HPe 203 Physical Ed. (women)	1
	16-17

FIFTH SEMESTER

Math 361 Differential Eqs.	3
Phys 223 Mechanics II	3
Phys 331 Atomic & Nuclear	4
S. S. Elective 3	3
Elective	3
	16

SIXTH SEMESTER

Phys 322 Electricity & Magnetism I	3
Phys 342 Heat & Thermo	4
S. S. Elective 4	3
Elective	3
Elective	3
	16

SEVENTH SEMESTER

Phys 323 Electricity & Mag. II	3
Phys 421 Selected Exp. I	3
Phys 483 Quantum I	3
S. S. Elective 5	3
Elective	3
	15

EIGHTH SEMESTER

Phys 422 Selected Exp. II	3
Phys 472 Modern Physics	3
Phys 484 Quantum II	3
Elective	3
Elective	3
	15

* May be taken second year.

MATHEMATICS

MELVIN R. WOODARD, Chairman

The program for a Mathematics concentration as a part of the Natural Science major is two phased. A student may pursue a degree in Mathematics or a degree in Applied Mathematics. Those completing a degree in Mathematics will be prepared to continue their studies in graduate school in mathematics even though some may enter business, industry or government positions. Those students receiving the degree in Applied Mathematics will be prepared to enter computer science related fields or to continue graduate school in Computer Science. The student would not be expected to continue graduate studies in pure mathematics, however.

A major in either field requires a minimum of 38 credits in mathematics.

MATHEMATICS

FIRST SEMESTER

	Cr.
Eng 101 English I	4
Math 157 Anal. Geom. & Calc. I*	4
Math 155 Comp. Prog. or	1
Intro. to Art, Music, or Theater	3
HPe 101 Health or	2
MS 101 Military Science I and	1½
HPe 110 Physical Ed. I (men)	½
Foreign Language†	3
	14-16

SECOND SEMESTER

	Cr.
Eng 102 English II	4
HPe 102 Physical Ed. I (women) or	1
MS 102 Military Science I and	1½
HPe 111 Physical Ed. II (men)	½
Math 257 Anal. Geom. & Calc. II	4
Math 155 Comp. Prog. or	1
Intro. to Art, Music, or Theater	3
Math 375 Modern Math	3
Foreign Language†	3
	16-18

THIRD SEMESTER

Math 357 Anal. Geom. & Calc. III	4
HPe 203 Physical Ed. II (women)	1
Eng 201 Literature I or	2
Eng 301 Literature II	2
Humanities or Nat. Sciences Gen. Ed. Elective	3
Phys 111 Physics I	4
Math Elective	3
	17

FOURTH SEMESTER

Math 355 Found. of Geom.	3
SS Gen. Ed. Elec.	3
Math Elective	3
Phys 112 Physics II	4
Elective	3
	16

FIFTH SEMESTER

Math 361 Differential Equations	3
Math 371 Linear Algebra or Math 376 Abstract Algebra	3
Science Elective	3- 4
SS Gen. Ed. Elective	3
Elective	3
	15-16

SIXTH SEMESTER

Math 381 Adv. Calc. I	3
Math Elective	3
Science Elective	3- 4
SS Gen. Ed. Elective	3
Elective	3
	15-16

SEVENTH SEMESTER

Math Elective	3
SS Gen. Ed. Elective	3
Elective	10
	16

EIGHTH SEMESTER

Math Elective	3
SS Gen. Ed. Elective	3
Math 452 Seminar	1- 3
Elective	9
	16-18

Electives may be chosen from the following: 341, 356, 363, 364, 367, 371, 376, 382.

* Those who do not qualify for Math 157 are required to take Math 152, Algebra and Trig.

† The intermediate sequence.

APPLIED MATHEMATICS

FIRST SEMESTER

	Cr.
Eng 101 English I	4
HPe 101 Health or	2
MS 101 Military Science I and	1½
HPe 110 Physical Ed. I	½
Math 157 Anal. Geom. & Calc. I*	4
Math 155 Computer Programming	1
Intro. to Art or Music or Theater	3
Foreign Language†	3
	17

SECOND SEMESTER

	Cr.
Eng 201 English II	4
HPe 102 Physical Ed. I or	1
MS 102 Military Science I and	1½
HPe 111 Physical Ed. II	½
Math 257 Anal. Geom. & Calc. II	4
Math 375 Modern Mathematics	3
Foreign Language†	3
	15-16

THIRD SEMESTER

Math 357 Anal. Geom. & Calc. III	4
Phys 111 Physics I	4
HPe 203 Physical Education II	1
Humanities or Natural Science Gen. Ed. Elective	3
Eng 201 Literature I or Eng 301 Literature II	2
Math 366 Computer Math I	3
	17

FOURTH SEMESTER

Math 371 Linear Algebra I	3
Phys 112 Physics II	4
Math 461 Computer Math II	3
SS Gen. Ed. Elective	3
Elective	3
	16

FIFTH SEMESTER

Math 361 Differential Equations	3
Science Elective	3- 4
SS Gen. Ed. Elective	3
Elective	6
	15-16

SIXTH SEMESTER

Math 381 Advanced Calculus I	3
Science Elective	3- 4
SS Gen. Ed. Elective	3
Elective	6
	15-16

SEVENTH SEMESTER

Math 367 Numerical Analysis	3
SS Gen. Ed. Elective	3
Elective	10
	16

EIGHTH SEMESTER

Math 471 Seminar: Adv. Topics in Computer Science	3
Math 452 Seminar	1- 3
SS Gen. Ed. Elective	3
Elective	9
	16-18

Electives in Mathematics may be chosen from the following: Math 382, 376, 363, 364, 253.

* Those who do not qualify for Math 157 are required to take Math 152, Algebra and Trig.

† The intermediate sequence.

SOCIAL SCIENCE DIVISION

RAYMOND J. LEE, Coordinator

The Social Science Division spans nine areas of the Social Sciences—Anthropology, Criminology, Economics, Geography, History, International Studies, Political Science, Psychology, and Sociology. As a Division it is organized to perform two functions:

1. To provide a General Education Program for all students.

2. To offer major and minor fields of concentration within the various Social Science disciplines (27 semester hours are required for a major; 15 semester hours for a minor, including General Education courses in that area).

Vocational opportunities that emerge from the Social Sciences disciplines are not easily classified, although the range of opportunities is great. The Division has prepared a booklet on career opportunities that is available upon request to the Divisional office.

DEPARTMENT OF ECONOMICS

DONALD A. WALKER, Chairman

The Department of Economics sponsors offerings of three general types: a program directed to the needs of students desiring to major or minor in economics; various specialized courses open to Social Science and other majors and minors; and a General Education elective.

Econ 101, Basic Economics, is the department's General Education offering. It develops concepts studied in greater depth in the six hour Principles I and II combination, and is designed for the student whose course contact with economics presumably will be limited to three semester hours. The course should not be programmed by students majoring in any of the social sciences or in either business management or business education.

Principles of Economics I taken alone, or Basic Economics if accepted by the department in substitution, serves as a foundation for certain additional economics courses for non-economics majors and minors. Principles I and II are prerequisites to later courses for those majoring or minoring in economics. The departmental majors program is designed for those planning careers as economists in education, government, industry, finance, or commerce. Today's professional economist occupies an increasingly active role in the American society, and great opportunity exists for qualified people.

The department's upper-division Electives are open to qualified non-economic majors and minors as well as to students specializing in the discipline, and are designed to aid the student in developing sophisticated insights into the workings of the American society from their respective standpoints. The course number and title of the earlier elective Econ 241, Contemporary Economic Problems, have been deleted; this course now appears under the listing Econ 122, Principles of Economics II, and Econ 122 must henceforth be programmed wherever Contemporary Economic Problems was required.

To achieve concentration in economics, a total of twenty-seven semester hours must be programmed from the courses listed below. The core courses are requirements for economics majors. Achievement of a minor in economics requires fifteen semester hours. Economics may also be part of the twenty-one hour comprehensive Social Science minor described elsewhere in this bulletin.

It is recommended that the economics major "minor" in a related discipline. Minors may be taken in any university-recognized discipline where sufficient credits can be obtained. Recommended as areas for a minor are the other social sciences: anthropology-sociology, criminology, geography including urban and regional planning, history, political science including international studies, and psychology. Recommended also are business (business management, general business, accounting) and mathematics (emphasis upon statistics, computer science, general mathematics). A minor in mathematics is particularly desirable for those whose future may include graduate work in economics.

THE ECONOMICS CURRICULUM

Core Courses, Economics Majors

Econ 121	Principles of Economics I	3 Cr.
Econ 122	Principles of Economics II	3 Cr.
Econ 221	Macroeconomic Analysis	3 Cr.
Econ 222	Microeconomic Analysis	3 Cr.
Econ 321	History of Economic Thought	3 Cr.

ELECTIVE COURSES

Econ 101	Basic Economics	3 Cr.
Econ 241	Contemporary Economic Problems: no longer offered; see text	
Econ 305	Quantitative Economic Methods I	3 Cr.
Econ 306	Quantitative Economic Methods II	3 Cr.
Econ 325	Money, Banking, and Monetary Policy	3 Cr.
Econ 330	Labor and Industrial Relations	3 Cr.
Econ 335	Public Finance	3 Cr.
Econ 340	Economics of Underdeveloped Countries	3 Cr.
Econ 341	Economic Development of the United States	3 Cr.
Econ 342	Economic Development of Modern Europe	3 Cr.

Econ 343 Economics of Population and Manpower	3 Cr.
Econ 345 International Economics	3 Cr.
Econ 350 Comparative Economic Systems	3 Cr.
Econ 355 Introduction to Econometrics	4 Cr.
Econ 360 Seminar, Special Studies in Economics	3 Cr.
Econ 390 Honors in Economics	3 Cr.
Math 362 Probability and Statistics	3 Cr.

RECOMMENDED PROGRAM SEQUENCE

FIRST SEMESTER

	Cr.
Eng 101 English I	4
HPe 101 Health (women) or	2
MS 101 Military Science I	1½
Gen. Ed. Soc. Science Elective	3
Laboratory Natural Sci.	4
Foreign Language	3
	15½-16

SECOND SEMESTER

	Cr.
Eng 102 English II	4
HPe 102 Physical Ed. I (women) or	1
MS 102 Military Science I	1½
Econ 121 Principles of Econ. I	3
Laboratory Natural Sci.	4
Foreign Language	3
	15-15½

THIRD SEMESTER

Math 101 Foundations of Math	3
Art 101 Introduction to Art or	
Mus 101 Introduction to Music or	
Eng 103 Introduction to Theatre	3
HPe 203 Physical Ed. II (women)	1
HPe 110 Physical Ed. I (men)	½
Econ 122 Principles of Econ. II	3
Gen. Ed. Soc. Sci. Elective	3
Gen. Ed. Humanities Elec. or	
Gen. Ed. Natural Sci. Elec.	3
	15½-16

FOURTH SEMESTER

Eng 201 Literature I or	
Eng 301 Literature II	2
HPe 111Physical Ed. II (men)	½
Econ 321 History of Econ. Thought	3
Economics Elective	3
Gen. Ed. Soc. Sci. Elec.	6
Gen. Ed. Humanities Elec.	3- 6
	17-17½

FIFTH SEMESTER

Econ 221 Macroeconomic Analysis	3
Economics Elective or	
Elec. in Minor Field	6
Gen. Ed. Humanities Elec.	3
Free Electives	3
	15

SIXTH SEMESTER

Econ 222 Microeconomic Analysis	3
Economics Elective	3
Electives in Minor Field	6
Free Electives	3
	15

SEVENTH SEMESTER

Economic Electives	6
Elec. in Minor Field	3
Free Electives	6
	15

EIGHTH SEMESTER

Free Electives	15
	15

GEOGRAPHY

THOMAS G. GAULT, Chairman

The function and purpose of geography is to prepare the future citizen to make rational judgements in his private and public life as it relates to the use of natural and cultural resources. Geography also acts as a meaningful integrator of the many subject matter areas taken by the student.

Though geography is listed as social science in Arts and Science curricula, it is of broader scope. Geography includes physical geography (earth science), cultural geography, economic geography, urban and regional planning, or combines these for a broad understanding of man in his total environment.

Vocational opportunities in geography are expanding rapidly. Students will find a wide variety of well-paid positions in government service, marketing, urban and regional planning, army and naval map services, editorial positions, and business.

There are three options for a major in the Geography Department in the School of Arts and Sciences: (1) General Geography, (2) Physical Geography, and (3) Urban/Regional Planning.

A major in geography consists of 36 semester hours in geography course work as listed in following pages. The options are exercised through judicious use of the minor and electives.

A minor in geography consists of 15 semester hours of geography course work including those taken as General Education as follows:

1) World Geography or Physical Geography

2) Cultural Geography or Economic Geography

3) One physical geography elective: Climatology, Physiography, Cartography, Conservation: Resource Use.

4) One human systematic elective: Political Geography, Geog. Infl. in History, Trade and Transportation, World Problems in Geography, Historical Geography of Cities and City Planning.

5) One Regional Geography elective: Europe, Far East, Southeast Asia, Anglo-America, Africa, U.S.S.R., South America, Australia, U.S. and Pa., Pennsylvania.

Geography Major

FIRST SEMESTER

	Cr.
English I	4
Biology I or Chemistry I or Physics I or Geology I	4
Physical Geography	3
General Ed. Soc. Science Elective	3
Military Science or Health	1½- 2
	15½-16

SECOND SEMESTER

	Cr.
English II	4
Nat. Science Continued	4
Cultural Geography	3
Gen. Ed. Soc. Science Elective	3
Military Science or	1½
Physical Ed. I (women)	1
	15½-16

THIRD SEMESTER

Foreign Language III	3
Literature I or II	2
Math 152	5
Economic Geography	3
Intro. to Art. or Music or Theater	3
Physical Ed. I (men)	½
	16-16½

FOURTH SEMESTER

Foreign Language IV	3
Gen. Ed. Nat. Sci. Elective	3
Geology or Physiography	3- 4
Geography Anglo-America	3
Physical Ed. II (women)	1
Gen. Ed. Soc. Sci. Elective	3
Physical Ed. (men)	½
	15½-17

FIFTH SEMESTER

Gen. Ed. Soc. Sci. Elective	3
Geography Thought	3
Geography Elective	3
Minor Elective	3
Meteorology or Climatology	3- 4
	15-16

SIXTH SEMESTER

Cartography	3
Regional Elective	3
Minor Elective	3
Free Elective	6
	15

SEVENTH SEMESTER

Geography Elective	3
Minor Elective	3
Free Elective	8
	14

EIGHTH SEMESTER

Geography Elective	3
Minor Elective	6
Free Elective	5
	14

Option in Physical Geography

FIRST SEMESTER

	Cr.
English I	4
Chemistry I	4
Geology I	3
Gen. Ed. Soc. Sci. Elective	3
Military Science or Health	2
	16

SECOND SEMESTER

	Cr.
English II	4
Chemistry II	4
Cultural Geography	3
Gen. Ed. Soc. Sci. Elective	3
Military Science or Physical Ed. I	2- 1
	15-16

THIRD SEMESTER

Foreign Language III	3
Literature I or II	2
Math 152	5
Economic Geography	3
Intro. to Art or Music or Theater	3
	16

FOURTH SEMESTER

Foreign Language IV	3
Gen. Ed. Soc. Sci. Elective	3
Math 157	5
Geology II	3
Physical Ed. II (women)	1
	15

FIFTH SEMESTER

General Ed. Soc. Sci. Elective	3
Geography Thought	3
Physics I	4
Cartography	3
Astronomy I	3
	16

SIXTH SEMESTER

Physics II	4
Geography Anglo-Am.	3
Climatology	3
Physiography	4
Astronomy II	3
	17

SEVENTH SEMESTER

Meteorology	4
Biology I	4
Free Electives	8
	16

EIGHTH SEMESTER

Oceanography	4
Biology II	4
Free Elective	6
	14

Urban-Regional Planning and Administration

Option in Geography

There is at present a large and unfilled need for students with a background in the Social Sciences and with a concentration in one or more of these sciences to enter the fields of Urban-Regional Planning and Administration. Essentially two types of personnel are desired: (1) the trained planner and administrator to direct and evaluate, and (2) the technician who is capable of carrying out individual research in relation to the overall pattern established by planners and administrators.

In response to these needs the Geography Department has established an inter-disciplinary option in Urban-Regional Planning and Administration so that students interested in this type of undergraduate program will be prepared to enter recognized graduate schools to prepare for positions as city managers, governmental administrators, and planners. Completion of the undergraduate curricula will qualify students for employment in subordinate positions in these fields.

The undergraduate inter-disciplinary program constitutes an introduction to the professional field of Urban-Regional Planning and Administration. It provides a basic understanding of planning and training desirable for entering the field of Urban-Regional Planning and Administration.

The program consists of 53 semester hours of general education, a 36 semester hour major in a geography plus 36 semester hours selected from five areas listed below.

In addition, students who elect the Planning-Administration option will be expected to devote two hours per week, for those semesters when they take the Urban/Regional Planning courses to practical problems in the county or borough offices. Students who complete two planning and administration courses are expected to take an apprenticeship. The apprenticeship will be during the summer session in some planning or administrative office within the state and the student will be compensated.

Urban/Regional Planning Option in Geography

FIRST SEMESTER

	Cr.
English I	4
Gen. Ed. Nat. Sci. Elective	4
Physical Geography	3
Gen. Ed. Soc. Sci. Elective	3
Military Science or Health	1½- 2
	15½-16

SECOND SEMESTER

	Cr.
English II	4
Nat. Sci. continued	4
Cultural Geography	3
Gen. Ed. Sci. Elective	3
Military Sci. or Phy. Ed. (women)	1½- 1
	15½-16

THIRD SEMESTER

Foreign Language III	3
Literature I or II	2
Math 101 or 152	3 - 5
Economic Geography	3
Intro. to Art or Music or Theater	3
Physical Ed. II (women)	1
Physical Ed. I (men)	½
	15½-17

FOURTH SEMESTER

Foreign Language IV	3
Gen. Ed. Nat. Sci. Elective	3
Gen. Ed. Soc. Sci. Elective	3
Geology I	3
Geography Anglo-America	3
Physical Ed. II (men)	½
	15½

FIFTH SEMESTER

Gen. Ed. Soc. Sci. Elective	3
Geography Thought	3
Hist. Geographic Cities	3
Group I Elective*	3
Climatology or Meteorology	3
	15

SIXTH SEMESTER

Cartography	3
Regional Geog. Elective	3
Group II Elective*	3
Group III Elective*	3
Group IV Elective*	3
	15

SEVENTH SEMESTER

City and Regional Planning	3
Group V Elective*	3
Group I Elective*	3
Group II Elective*	3
Group III Elective*	3
	15

EIGHTH SEMESTER

Urban Design	3
Group IV Elective*	3
Group V Elective*	3
Urban Pl. Basic Studies	3
Elective	6
	18

*Groups of Electives for Urban/Regional Planning Option in Geography

GROUP I

Econ 343 Economic Analysis	3
Econ 344 Public Finance	3
Econ 341 Industrial Relations	3

GROUP II

Geog 246 Physiography	4
Geog 354 Trade and Transportation	3
Geog 452 Conservation: Resource Use	3
Geog 462 Field Course in Geography	3

GROUP III

Soc 334 Population Problems	3
Soc 332 Racial-Cultural Minorities	3
Soc 333 Juvenile Delinquency	3
Soc 335 Social Stratification	3

GROUP IV

Bus 221 Introduction to Accounting	3
Bus 251 Intermediate Accounting	3
Math 362 Probability and Statistics	3
Math 366 Fortran	3
Art 211 Mech. Drawing and Ind. Design	3

GROUP V

PolS 354 Metropolitan Problems	3
PolS 356 State and Local Government	3
PolS 350 Public Administration	3
PolS 358 Contemporary Pol. Problems	3

At least one course must be elected from each group.

HISTORY DEPARTMENT

CLYDE C. GELBACH, Chairman

The program in history is designed to give both the major and minor student an opportunity to study in some depth the past story of man and his world. Not only the story of the United States, but also that of other peoples and other times is covered in the belief that such study, together with an understanding of the craft of the historian, is an essential for the future of mankind.

The history student will find that his program is excellent preparation for government service, for pre-law training, for broad business opportunities, for work in varied fields of journalism, for archival and manuscript positions, as well as training for creative writing areas including the writing of history. In addition, an excellent undergraduate scholarship record in history can lead to opportunities for graduate study in this and other fields.

Requirements for a major in history are twenty-seven hours including General Education courses. For a minor fifteen hours are required including General Education courses.

FIRST SEMESTER	Cr.
Eng 101 English I	4
HPe 101 Health or	2
MS 101 Military Science I	1½
Laboratory Natural Science	4
Foreign Language	3
Gen. Ed. Soc. Sci. Elective	3
	15½-16

SECOND SEMESTER	Cr.
Eng 102 English II	4
HPe 102 Physical Ed. I (women)	1
MS 102 Military Science I	1½
Laboratory Natural Science	4
Foreign Language	3
Gen. Ed. Soc. Sci. Elective	3
	15-15½

THIRD SEMESTER

Math 101 Foundations of Math	3
HPe 203 Physical Ed. II (women)	1
Eng 201 Literature I or	
Eng 301 Literature II	2
Gen. Ed. Natural Sci. or	
Humanities Elective	3
Gen. Ed. Soc. Sci. Elective	6
HPe 110 Physical Ed. I (men)	½
	14½-15

FOURTH SEMESTER

Gen. Ed. Soc. Sci. Elective	3
Art 101 Intro. to Art or	
Mus 101 Intro. to Music or	
Eng 103 Intro. to Theater	3
Course in Major-Minor Fields	9
HPe 111 Physical Ed. II (men)	½
	15-15½

FIFTH SEMESTER

Courses in Major-Minor Fields	
or free electives	15-18

SIXTH SEMESTER

Courses in Major-Minor Fields	
or free electives	15

SEVENTH SEMESTER

Courses in Major-Minor Fields	
or free electives	15

EIGHTH SEMESTER

Courses in Major-Minor Fields	
or free electives	15

CRIMINOLOGY DEPARTMENT

HARRY W. MORE, Chairman

The department offers men and women who seek a career in the Criminology field a professional education program supported by a broad liberal arts education.

The program in Criminology has a five-fold objective:

1. The education of students for employment and leadership in the expanding field of criminal justice.
2. The education of presently employed law enforcement and correctional officers who recognize the need for raising their educational level.
3. The instruction of students who wish to acquire an understanding of the processes of criminal justice as a cultural part of their higher education.
4. The instruction of students who wish to prepare for graduate study and research in the administration of justice.
5. A curriculum which provides an excellent foundation for students preparing for a career in law.

Nearly every level of government offers opportunities for professional careers in criminology. Students will find employment opportunities in more than fifty federal agencies including the Federal Bureau of Investigation, U. S. Secret Service, Bureau of Narcotics, Intelligence Division (I.R.S.), Inspection Service (I.R.S.), Alcohol Tobacco Tax Division (I.R.S.), State Department Security, Atomic Energy Commission, and military investigative branches.

Both men and women will find employment opportunities in parole and probation work for federal, state and local governments, institutional careers concerned with the custody and treatment of juveniles and adults at all levels of government. In addition, many police departments have specialized units dealing with juveniles, community relations, training and research. Criminalistic laboratories provide another career area and there are a wide variety of opportunities in traffic administration, investigative and security activities in the commercial and industrial fields.

Career opportunities are also available in research and teaching at the college and university level and in research divisions of agencies in the field of administration of justice.

Criminology majors are required to complete a minimum of thirty hours in the department. The student's career objectives will determine the program which he will take, and course work will emphasize: law enforcement, criminalistics, corrections, or security administration.

MINOR IN CRIMINOLOGY

A minor in Criminology consists of 15-27 semester hours. Students taking courses beyond these listed below should consult with the Chairman of the Department of Criminology.

Crmn 101 General Administration of Justice
Crmn 102 Criminology
Crmn 340 Crime Prevention
Crmn 430 Comparative Study of Justice
Crmn 490 Crime and Modern Society

CERTIFICATE IN LAW ENFORCEMENT

Officers taking this program in law enforcement will be required to complete 60 semester credits of course work. Thirty hours in law enforcement and thirty hours in general education courses.

Suggested Curriculum

Crmn 101 General Administration of Justice	3
Crmn 102 Criminology	3
Crmn 201 Police Administration I	3
Crmn 202 Police Administration II	3
Crmn 301 Criminal Law I	3
Crmn 302 Criminal Law II	3
Crmn 310 Criminal Investigation	3
Crmn 340 Crime Prevention	3
Crmn 350 Techniques of Interviewing	3
Crmn 415 Supervision in the Administration of Justice	3
Eng 101 English I	4
Eng 102 English II	4
Soc 151 Introduction to Sociology	3
Psy 201 General Psychology	3
Pol S III American Citizenship	3
Social Science Electives	13
Semester Hours	60

General education courses can be taken at other colleges or universities and applied toward the certificate. The general education courses listed above must be taken by all students. The 13 hours of social science electives must be approved by the Department of Criminology.

BACHELOR OF ARTS

FIRST SEMESTER

	Cr.
Eng 101 English I	4
Crmn 101 Gen. Adm. of Justice	3
Science	4
HPe 101 Health (women)	2
MS 101 Military Science I (men)	1½
Social Science	3
	15½-16

SECOND SEMESTER

	Cr.
Eng 102 English II	4
Science	4
Crmn 102 Criminology	3
HPe 102 Physical Ed. I (women)	1
MS 102 Military Science I (men)	1½
Soc 151 Principles of Sociology	3
	15-15½

THIRD SEMESTER

Crmn 201 Police Administration I (law enforcement emphasis)	3
Psy 201 General Psychology	3
Foreign Language (Intermediate sequence)	3
HPe 203 Physical Ed. II (women)	1
HPe 110 Physical Ed. I (men)	½
Art 101 Introduction to Art or Mus 101 Introduction to Music or Eng 103 Introduction to Theater	3
Eng 201 Literature I	2
	15-15½

FOURTH SEMESTER

Crmn 202 Police Administration II (law enforcement emphasis)	3
Foreign Language (Intermediate sequence)	3
Math 101 Foundations of Math	3
HPe 111 Physical Ed. II (men)	½
Gen. Ed. Soc. Sci. Electives	6
	15-15½

FIFTH SEMESTER

Social Science Courses	6
Criminology Courses	6
Humanities or Natural Sci. Elective	3
	15

SIXTH SEMESTER

Criminology Courses	6
Electives	9
	15

SEVENTH SEMESTER

Criminology Course	3
Electives	12
	15

SUMMER

Crmn 497 Internship (By Appointment Only)	6

6

EIGHTH SEMESTER

Criminology Course	3
Electives	12
	15

All students enrolled in the Bachelor of Arts program must complete 52 semester hours in General Education and a minimum of 30 semester hours in the major field.

In addition, majors in Criminology are required to pursue a minor field, 15-27 semester hours, in one of the social sciences or a special combined minor may be selected.

After students meet the minimum requirements in their major-minor field, they may select Free Electives, 15-27 semester hours. The selection of free electives must be planned with the advice and consent of the student's advisor.

POLITICAL SCIENCE DEPARTMENT

RICHARD F. HEIGES, Chairman

Political Science involves the study of political systems, power, public policy making, and related concepts. Although historically the discipline has centered on values and raises questions as to the nature of the ideal society, behaviorism in recent decades has emphasized the scientific method, empirical findings, and the development of a system of political theory. Political Science in modern society strives to assist public policy making and administration by integrating the older normative approach with the newer empirical methods.

Students majoring in Political Science find employment opportunities, usually through civil service examinations, in federal, state, and local governments, and with private civic groups, interest groups, and political groups. Students who go on to graduate work find appointments at higher levels and in college teaching. Students majoring in Political Science, as in any of the Social Sciences, furthermore, are in demand by employers in business and industry.

The Political Science major is also especially suitable for the pre-law student.

REQUIREMENTS FOR POLITICAL SCIENCE MAJOR AND MINOR

The Political Science Major consists of a minimum of twenty-seven semester hours in the discipline; the minor consists of fifteen hours.

In both the major and the minor, two courses are required; Pol S 111, American Citizenship and Pol S 120, Introduction to Political Science.

Course Sequence—Political Science Major

Effective for students entering after June, 1968

FIRST SEMESTER		SECOND SEMESTER	
Eng 101 English I	4	Eng 102 English II	4
HPe 101 Health or	2	HPe 102 Physical Ed. I or	1
MS 101 Military Science I	1½	MS 102 Military Science I	1½
Laboratory Natural Science	4	Laboratory Natural Science	4
Foreign Language	3	Foreign Language	3
PolS 120 Intro. to Political Science	3	PolS 111 American Citizenship	3
	15½-16		15-15½

THIRD SEMESTER		FOURTH SEMESTER	
Math 101 Foundations of Math	3	HPe 111 Physical Ed. for Men	½
HPe 103 Physical Ed. II or	1	Gen. Ed. Soc. Sci. Electives	6
HPe 110 Physical Ed. for Men	½	Art 101 Intro. to Art, or	
Eng 101 Literature I or		Mus 101 Intro. to Music, or	
Eng 102 Literature II	2	Eng 103 Intro. to Theatre	3
Gen. Ed. Soc. Sci. Electives	6	Courses in Major-Minor Field	6
General Ed. Natural Sci. or			
Human. Elective	3		
	14½-15		15-15½

FIFTH SEMESTER (and after)

Courses in Major-Minor Field or

Free Electives ..... per semester 15

CENTER FOR INTERNATIONAL STUDIES

ROBERT MORRIS, Director

The Center for International Studies was established at Indiana University of Pennsylvania to meet the demand for college graduates qualified for international service. The Center offers a flexible program leading to a B.A. degree. The curriculum in International Studies is broad enough to prepare the student for any one of a great variety of international career opportunities; however, the courses offered permit the student to specialize during his junior and senior years. Although the specialist is needed in international service, the successful specialist is one who has a very broad training at the undergraduate level.

Beyond the general education courses required of all students in the School of Liberal Arts at the University (which includes a foreign language requirement), the International Studies major must fulfill three curriculum requirements established by the Center:

I. He must complete two introductory courses in International Studies. (6 semester hours) PolS 357 International Relations and PolS 278 International Organization.

II. He must build an interdisciplinary elective sequence selected from at least three of the following groups. (9-18 semester hours)

A

Bus 101 Business Organization & Management
Crmn 430 Comparative Study of Justice
Psy 452 Social Psychology
Psy 114 Industrial Psychology

B

Econ 122 Principles of Economics II
Econ 340 Economic Development
Econ 345 International Economics
Econ 350 Comparative Economic Systems

C

Geog 149 Economic Geography
Geog 453 Political Geography
Geog 454 World Problems in Geography

D

Hist 363 Diplomatic History of U.S.
Hist 374 History of the 20th Century World

E

PolS 350 Public Administration
PolS 355 Comparative Government
PolS 379 Developing Nations
PolS 360 American Foreign Policy

F

Soc 334 Population Problems
Soc 357 World Cultures
Anth 211 Cultural Anthropology
Anth 312 World Ethnography

III. He must complete a specialization in the economic and political systems of another culture that includes a study of the language, literature, history, and geography of a specific region of the world. (12-18 semester hours) Currently three specializations are offered: Soviet Studies, The Far East, and Latin America. However, students interested in Africa, the Middle or Near East may elect interdisciplinary courses focusing on the developing nations. It is also possible to build a program centering on the Atlantic community of nations.

Specialization must include work in at least three disciplines. The student is expected to have completed the inter-

mediate language sequence of the appropriate language in the general education requirements so that no credit towards specialization is counted for language courses numbered below the 300 level.

A. Soviet Studies

Rus 351-352 Advanced Russian Language
Rus 055-056 Advanced Oral Practice
Rus 361-362 Development of Russian Culture and Literature I and II
Hist 354 History of Russia
Geog 357 Geography of U.S.S.R.
PolS 380 Soviet Politics & Government
PolS 385 Political Systems: Central & Eastern Europe
Hist 355 History of Soviet Russia

B. The Far East

Hist 375 History of the Far East
PolS 379 Developing Nations
PolS 383 Political Systems: Asia
Geog 361 Geography of the Far East
Geog 362 Geography of Asia

C. Latin America

Sp 351-352 Advanced Spanish Language
Sp 055-056 Advanced Oral Practice
Sp 361-362 Development of Spanish Culture and Literature I and II
Hist 350 Latin America: Colonial Period
Hist 352 Latin America: National Period
Geog 371 Geography of South America
Geog 372 Geography of Middle America
PolS 379 Developing Nations
PolS 381 Political Systems: Latin America

A minor in International Studies consists of meeting the requirements listed under I and II above. The student's major is substituted for his specialization (III). The curriculum of the Center for International Studies is flexible enough so that the student can plan a program to match his interests. Students enrolled at the Center are preparing for careers in Foreign Service or for work with other branches of the government. Corporations and religious and philanthropic organizations are also seeking college graduates qualified for international service. In addition, American colleges and universities need professors qualified to teach in international affairs programs. The Center for International Studies at Indiana University prepares students for these opportunities.

It is possible for a social science education major to plan a concentration in the Center for International Studies. A concentration in International Studies will supplement the students required courses and leads to certification in the social science fields for teaching positions in the state of Pennsylvania.

PSYCHOLOGY

RICHARD D. MAGEE, Chairman

The Psychology Major is designed to provide the necessary background for graduate work in psychology. It may also be a useful preparation for such related fields as personnel work, advertising, medicine, law, theology, social work, market research and rehabilitation counseling. The student who desires a general cultural background in the Liberal Arts with special emphasis on the understanding of human behavior will find this a desirable major.

Psychology majors will be required to take General Psychology and Probability and Statistics as part of the General Education program. An additional 30 semester hours in Psychology will be required for graduation, of which 12 semester hours are prescribed. Any deviation from these requirements will require departmental approval.

The student's objectives will determine his selection of electives in Psychology and he will be advised accordingly. Those who plan to pursue graduate work in Psychology should expect to earn an overall average of B or better in order to insure admittance to a graduate school.

Students who desire a minor in Psychology will be required to have a minimum of 18 semester hours, including General Psychology. In addition, minors will be required to have Developmental Psychology and Mental Hygiene.

REQUIRED COURSES

Psy 201 General Psychology (General Education requirement for Majors; required for Minors)
Psy 354 Developmental Psychology (Required for Majors and Minors)
Psy 452 Social Psychology (Required for Majors)
Psy 352 Mental Hygiene (Required for Minors)
or
Psy 461 Abnormal Psychology (Majors are required to have at least one of these)

FIRST SEMESTER	Cr.	SECOND SEMESTER	Cr.
Eng 101 English I	4	Eng 201 English II	4
Biol 103 General Biology I or		Biol 104 General Biology I or	
Sci 105 Phys. Science I	4	Sci 106 Phys. Science II	4
HPe 101 Health or	2	Psy 201 General Psychology	3
MS 101 Military Science I	1½	Foreign Language	3
Foreign Language	3	HPe 102 Physical Ed. I or	1
Math 101 Foundations of Math	3	MS 102 Military Science I	1½
	15½-16		15-15½

THIRD SEMESTER

Math 362 Probability and Statistics	3
Intro. to Music, Art or Theater	3
Phil 120 Philosophy (or other Humanities or Natural Sci. elect.)	3
Gen. Ed. Soc. Sci. elect.	3
Psychology	3
HPe 203 Physical Ed. II (women)	1
	15-16

FOURTH SEMESTER

Eng 201 Literature I or Eng 301 Literature II	2
Gen. Ed. Soc. Sci. elective	6
Courses in Psy. and Minor	9
	17

FIFTH SEMESTER

Gen. Ed. Soc. Sci. Elective	3
Courses in Major-Minor Fields or free electives	12
	15

SIXTH, SEVENTH AND EIGHTH SEMESTERS

Courses in Major-Minor Fields or free electives	15
(Total credits required for graduation—124)	

SOCIOLOGY-ANTHROPOLOGY DEPARTMENT

RALPH R. IRELAND, Chairman

The Sociology-Anthropology Department provides an opportunity for studies in two closely related disciplines. Although a student may elect to concentrate his studies in one area more than another, studies in both disciplines are recommended. Sociology and Anthropology are both concerned with man's social and cultural setting and the nature of his relationships with his fellow men. Sociology focuses primarily on studies of our own society whereas Anthropology is mainly concerned with non-Western cultures.

Sociology-Anthropology training can be preparatory for a variety of vocations. Teaching in secondary schools or in colleges and universities are vocations of interest to many students. Social work is an area of increasing opportunities. Anthropologists find employment opportunities primarily in higher education, museum work, and in civil service positions. Students planning future studies in theology, law, personnel management or other human relations occupations will find that undergraduate training in Sociology and Anthropology is eminently appropriate.

Departmental Requirements

A major in Sociology-Anthropology requires a total of twenty-seven hours of course work including General Education courses.

Fifteen hours of course work are required for a minor in the department including General Education courses.

Both majors and minors must elect their courses from those listed below. All students must include the required courses.

Sociology-Anthropology Department

REQUIRED COURSES

Soc 151 Principles of Sociology	3
Soc 331 Contemporary Social Problems	3
Anth 110 Introduction to Anthropology	3

ELECTIVE COURSES

Soc 332 Racial and Cultural Minorities	3
Soc 333 Juvenile Delinquency	3
Soc 334 Population Problems	3
Soc 335 Social Stratifications	3
Soc 336 Sociology of the Family	3
Soc 337 World Cultures	3
Soc 338 Introduction to Social Work	3
Soc 339 American Communities	3
Soc 340 Industrial Sociology	3
Soc 341 Sociology of Education	3
Anth 211 Cultural Anthropology	3
Anth 312 World Ethnography	3
Anth 313 Old World Archaeology	3
Anth 314 Ethnology of North American Indians	3
Anth 315 North American Archaeology	3
Anth 316 The Anthropology of Religion	3
Anth 317 Archaeological Techniques	3
Anth 318 Museum Methods	3
Anth 319 Social Structure and Function	3
Anth 320 Archaeological Field School	3

GENERAL PROGRAM — LIBERAL ARTS

Sociology-Anthropology Department

FIRST SEMESTER

	Cr.
Eng 101 English I	4
HPe 101 Health or	2
MS 101 Military Science I	1½
Laboratory Natural Science	4
Foreign Language	3
Soc 151 Prin. of Sociology or Anth 101 Intro. to Anthropology	3
	15½-16

SECOND SEMESTER

	Cr.
Eng 102 English II	4
HPe 102 Physical Ed. I or	1
MS 102 Military Science II	1½
Laboratory Natural Science	4
Foreign Language	3
Soc 151 Prin. of Sociology or Anth 101 Intro. to Anthropology	3
	15-15½

THIRD SEMESTER

Math 101 Foundations of Math	3
HPe 103 Physical Ed. II (women)	1
Eng 201 or 301 Literature I or II	2
Soc 331 Contemp. Soc. Prob.	3
Gen. Ed. Soc. Sci. Elective	3
Gen. Ed. Natural Sci. or Humanities Elective	3
HPe 110 Physical Ed. I (men)	½
	14½-15

FOURTH SEMESTER

Gen. Ed. Soc. Sci. Elective	3
Intro. to Art, Music, or Theater	3
Courses in Major-Minor Field	9
HPe 111 Physical Ed. II (men)	½
	15-15½

FIFTH SEMESTER		SIXTH SEMESTER	
Courses in Major-Minor Field or free electives	15	Courses in Major-Minor Field or free electives	15
SEVENTH SEMESTER		**EIGHTH SEMESTER**	
Courses in Major-Minor Field or free electives	15	Courses in Major-Minor Field or free electives	15

* Sociology-Anthropology majors must plan their major-minor program in consultation with their adviser.

THE SCHOOL OF BUSINESS

ALBERT E. DRUMHELLER, Dean

The establishment of a School of Business was authorized by the Board of Trustees of the University in May, 1966. In doing so, it was indicated that the School should consist of several departments.

The Department of Business Education, which has been one of Indiana's areas of specialization for some fifty years, represents one of the departments. This area of education is designed to prepare business teachers for the secondary schools. The Department of Distributive Education was recently created to prepare Teacher-Coordinators for those schools offering programs in marketing, distribution and cooperative work experience. Another newly instituted department was designated as the Department of Business Management. The primary purpose of this area of study is to prepare students for activity in the world of business and industry.

GENERAL EDUCATION

The credit requirements in General Education are the same in the School of Business as they are in all other Schools of the University. Slight variations in specific courses needed to meet the General Education requirements exist in the several departments of the School.

AREAS OF CONCENTRATION

Business and Distributive Education. Those persons enrolled in Business and Distributive Education have a choice of five areas of specialization. Accounting, Data Processing, Distributive Education, Retailing and Stenography represent the possibilities. It is a requirement of the two departments that all persons enrolled choose two of the fields according to their interests and desires, in order to meet the departments' standards for graduation. All State requirements for certification are more than adequately met in Indiana's curriculum. Additional hours beyond the State's requirements enrich the stu-

dents' preparation for teaching in their chosen fields. Student Teaching under local supervision provided at the centers where this experience is gained, combined with supervision from the college during this stage of training provides a fine conclusion to the preparation for teaching. It is an experience which brings together in a useful form all of the trainee's academic preparation.

Business Management. This department offers men and women who seek a career in the world of business or industry an opportunity to pursue their interests in any of four areas of specialization; Accounting, Systems Analyst, Office Management, or General Business. The curriculum is generally similar for all during the first two years. The choice of an area of specialization is necessary prior to the start of the students junior year. The Accounting area provides the necessary training for a person to enter the field of public accounting, accounting in business or industry, or governmental accounting. The Systems Analyst area provides training in business computer technology and in the designing and implementation of management information systems. The Office Management area provides training for executive secretarial positions and various other related office positions. The General Business area provides an opportunity for students to pursue training in two or more of the previous areas of specialization but not to the extent permitted a student concentrating in only one of these areas. Each area provides for a generous election of a wide variety of business, economics, or business related courses designed to enrich the students understanding of the world of modern business.

BUSINESS EDUCATION DEPARTMENT

JAMES K. STONER, Chairman

The curriculum in this department is designed to prepare students for a professional teaching career in business. Students may pursue the work of the entire curriculum or they may elect to pursue work according to their aptitudes as follows:

1. The Complete Program leads to certification in all four fields, thus affording certification in all of the high school business subjects. Those who possess aptitudes that indicate success in stenographic, accounting, retailing, and data processing work may, if they wish, pursue this complete program.

2. A Combination Program includes Data Processing, or combines either the Stenographic and Accounting, the Stenographic and Retailing, or the Accounting and Retailing Fields. All students planning to enter this Department should plan to

be graduated in Data Processing or one of the combined programs. School administrators who employ our graduates believe that a combination program is necessary for breadth of certification when teaching in the public schools of the Commonwealth.

3. The Stenographic Field includes all the courses in the curriculum listed under that heading. Elective courses may be chosen from any other department of the University.

4. The Accounting Field includes all of the courses in the curriculum listed under that heading. Elective courses may be chosen from any other department of the University.

5. The Retailing Field includes all of the courses in the curriculum listed under that heading. Elective courses may be chosen from any other department of the University.

6. The Data Processing Field includes all of the courses in the curriculum listed under that heading. Elective courses may be chosen from any other department of the University.

Practical Business Experience Requirements. Before graduation, each student will be required to have completed the equivalent of six months of store practice, secretarial practice, accounting practice, clerical practice, or a combination of these or other business contacts, acquired at places and under conditions approved by the chairman of this department. This experience should be preferably in the field or fields in which the student is contemplating certification. Much of this experience can be acquired during the summer vacations and in offices on the campus during the regular school term.

DISTRIBUTIVE EDUCATION DEPARTMENT

JAMES K. STONER, Teacher-Educator

The curriculum in this department is designed to prepare students for a professional teaching career in the distributive occupations. Students following this program will be graduated as Teacher-Coordinators of Distributive Education and will be also certified to teach certain courses in Business Education.

Teaching in the field of Distributive Education combines the personal satisfaction of teaching with the enjoyment of public relations work in the distributive area of business—retailing, wholesaling, and service enterprises. If you like the prestige of teaching, along with the plus values of working with business leaders and young people, you will find this a challenging and rewarding career. Distributive Education pre-

sents a promising future for persons in the teaching profession. With the recognition of the importance of distribution to our National economy, this vocational field of teaching is expanding rapidly.

Students enrolled in this department are encouraged to combine this area of concentration with the Accounting curriculum in the Business Education Department.

Curriculum in Business and Distributive Education - School of Business.

School of Business

CURRICULUM IN BUSINESS AND DISTRIBUTIVE EDUCATION

FIRST SEMESTER		SECOND SEMESTER	
HPE 110 Phys. Ed. I (men) and	2— ½	HPE 111 Phys. Ed. II (men) and	2— ½
MS 101 Military Science I or	3—1½	MS 102 Military Science I or	3—1½
HPE 101 Health (women)	2—2	HPE 102 Phys. Ed. I (women)	2—1
ENG 101 English I	4—4	ENG 102 English II	4—4
SCI 103 General Biology I or		SCI 104 General Biology II or	
SCI 105 Physical Science I	5—4	SCI 106 Physical Science II	5—4
ART 101 Intro. to Art or		GEO 101 World Geography	3—3
MUS 101 Intro. to Music or		BE 111 Foundations of Math	
ENG 103 Intro. to Theater	3—3	(Bus.)	3—3
BUS 101 Business Org. & Mgt.	3—3	BUS 132 Intermediate Typing	5—2
BUS 131 Principles of Typing	5—2	(exemption by examination)	

THIRD SEMESTER

	Data Process.	Stenog.	Acct'g.	Retail	Distrib. Edu.
HPE 203 Physical Ed. II (women)	2— 1	2— 1	2— 1	2— 1	2— 1
BUS 221 Introduction to Accounting	5— 3	5— 3	5— 3	5— 3	5— 3
BE 212 Business Math II	3— 3	3— 3	3— 3	3— 3	3— 3
BUS 261 Shorthand Theory	—	5— 3	—	—	—
PSY 201 General Psychology	3— 3	3— 3	3— 3	3— 3	3— 3
ENG 201 Literature I or					
ENG 301 Literature II	2— 2	2— 2	2— 2	2— 2	2— 2
BUS 271 Advanced Typewriting	5— 2	5— 2	5— 2	5— 2	5— 2
BUS 233 Marketing	3— 3	—	—	—	3— 3

FOURTH SEMESTER

BUS 235 Business Law I	3— 3	3— 3	3— 3	3— 3	3— 3
BUS 251 Intermediate Accounting	5— 3	5— 3	5— 3	5— 3	5— 3
BUS 262 Shorthand Dictation	—	5— 3	—	—	—
EdPSY 302 Educational Psychology	3— 3	3— 3	3— 3	3— 3	3— 3
HIST 102 History of Civilization II	3— 3	3— 3	3— 3	3— 3	3— 3
ECON 121 Principles of Economics I	3— 3	3— 3	3— 3	3— 3	3— 3
BUS 332 Retail Management	—	—	—	—	3— 3
MATH 101 Foundations of Math (Computer)	3— 3	—	—	—	—

FIFTH SEMESTER

BUS 321 Business Communication	—	3— 3	—	3— 3	3— 3
BE 311 Methods of Teaching Bus. Courses	3— 3	3— 3	3— 3	3— 3	—
BUS 336 Business Law II	3— 3	3— 3	3— 3	3— 3	3— 3
BUS 331 Sales and Retailing	—	3— 3	3— 3	3— 3	—

BUS 352 Corporate Accounting	3— 3	—	3— 3	—	—
BUS 363 Transcription	—	5— 3	—	—	—
BUS 335 Office Machines	5— 2	—	5— 2	5— 2	—
ECON 122 Principles of Economics II	—	3— 3	3— 3	3— 3	3— 3
BUS 333 Principles of Selling	—	—	—	—	3— 3
BUS 339 Business Data Processing	3— 3	—	3— 3	—	3— 3

SIXTH SEMESTER

MATH 461 Computer Math II	3— 3	—	—	—	—
DE 310 Principles of DE	—	—	—	—	3— 3
BE 312 Eval. Tech. in Bus. Courses	3— 2	3— 2	3— 2	3— 2	—
BUS 321 Business Communications	3— 3	—	3— 3	—	—
BUS 335 Office Machines	—	5— 2	—	—	5— 2
BUS 353 Cost Accounting	—	—	3— 3	—	—
BUS 339 Business Data Processing	—	3— 3	—	3— 3	—
BUS 332 Retail Management	—	—	—	3— 3	—
BUS 364 Secretarial Office Practice	—	5— 3	—	—	—
ED 301 Audio-Visual Education	3— 2	3— 2	3— 2	3— 2	3— 2
BUS 454 Federal Taxes	3— 3	—	3— 3	—	—
ED 302 History & Philosophy of Am. Ed.	3— 3	3— 3	3— 3	3— 3	3— 3
*DE 434 Supvd. Work Exp. & Seminar in DE	—	—	—	—	15— 6

SEVENTH SEMESTER

HIST 104 History of U.S. & Pa. II	3— 3	3— 3	3— 3	3— 3	3— 3
BUS 454 Federal Taxes	—	—	3— 3	—	—
PHIL 120 Introduction to Philosophy or PHIL 221 Logic or PHIL 222 Ethics	3— 3	3— 3	3— 3	3— 3	3— 3
BE 433 Retail Practice	—	—	—	15— 6	—
POLS 111 American Citizenship	3— 3	3— 3	3— 3	3— 3	3— 3
BUS 455 Auditing (Elective)**	—	—	3— 3**	—	—
BE342 Consumer Economics (Elective)**	3— 3**	3— 3**	3— 3**	3— 3**	3—3**
DE 313 Methods of Teaching Courses in DE	—	—	—	—	3— 3
BUS 439 Business Information Systems	3— 3	—	—	—	—

EIGHTH SEMESTER

ED 421 Student Teaching	30—12	30—12	30—12	30—12	30—12
ED 422 Professional Practicum	2— 2	2— 2	2— 2	2— 2	2— 2

* Supervised work experience during the summer Effective: BE 9/67; DE & Data Processing 9/68.

BUSINESS MANAGEMENT DEPARTMENT

CHARLES L. COOPER, Chairman

The training offered by the Business Management Department is intended to provide a broad basic liberal background in the behavorial sciences; to give a keen perception to the social-economic world in which one is to live and work; to provide the foundation of general professional education for personally fruitful and socially useful careers in the varied fields of business and other types of institutions; and to furnish the opportunity to obtain the specialized knowledge and skills essential to future occupational growth and advancement for students preparing for responsible technical, supervisory, and executive positions. Students may pursue work according to their interests and aptitudes, as follows:

1. The ACCOUNTING PROGRAM includes all the courses of the curriculum listed under that heading. Six credits of elective courses must be in the area of Economics and the remaining elective courses may be chosen in any area of business, areas related to business, or approved areas of the behavorial sciences. To major in accounting, a student must maintain a "B" average in the first nine credit hours of accounting.

2. The SYSTEMS ANALYST PROGRAM includes all the courses of the curriculum listed under that heading. Elective courses may be chosen in any area of business areas related to business, or approved areas of the behavorial sciences.

3. The OFFICE MANAGEMENT PROGRAM includes all the courses of the curriculum listed under that heading. Elective courses may be chosen in any area of business, areas related to business, or approved areas of the behavorial sciences.

4. The GENERAL BUSINESS PROGRAM includes all the courses of the curriculum listed under that heading plus nine credits of elective in other Business Management courses and six credits of electives in the area of Economics. The remaining elective courses may be chosen in any area of business, areas related to business, or approved areas of the behavorial sciences.

Two-thirds of the allowed electives in each of the above areas of concentration must be in the business or business related areas.

BUSINESS MANAGEMENT PROGRAM

FIRST SEMESTER

Eng 101	English I	4—4
Biol 103	General Biology I or	
Sci 105	Physical Science I	5—4
Art 101	Introduction to Art or	
Mus 101	Introduction to Music or	
Eng 103	Introduction to Theater	3—3
*Geog 101	World Geography	3—3
**Bus 101	Bus. Org. & Mgt.	3—3
MS101	Military Science I or	3—1½
HPe 101	Health	2—2

SECOND SEMESTER

Eng 102	English II	4—4
Biol 104	General Biology II or	
Sci 106	Physical Science II	5—4
BM 111	Foundations of Math (Mgt.)	3—3
*Bus 101	Bus. Org. & Mgt.	3—3
**Math 101	Foundations of Math (Comp.)	3—3
MS 102	Military Science I or	3—1½
HPe 102	Physical Education I	2—1

THIRD SEMESTER

Econ 121	Principles of Econ. I	3—3
BM 201	Personnel Management	3—3
Math 362	Probability & Statistics	3—3
Bus 221	Intro. to Accounting	5—3
Psy 201	General Psychology	3—3
HPe 203	Physical Education II	2—1
HPe 110	Physical Ed. I (men)	2— ½

FOURTH SEMESTER

Econ 122	Principles of Econ. II	3—3
*Hist 104	History of U.S. & Pa. II	3—3
Bus 251	Intermediate Accounting	5—3
Bus 235	Business Law I	3—3
BM 215	Business Statistics	3—3
**Bus 339	Bus. Data Processing	3—3
HPe 111	Physical Ed. II (men)	2— ½

FIFTH SEMESTER

		Accounting	Systems Analyst	Office Management	General Business
Bus 233	Marketing	3—3	3—3	3—3	3—3
Bus 352	Corporate Accounting	3—3	3—3	—	3—3
Bus 336	Business Law II	3—3	3—3	3—3	3—3
Econ 325	Money, Banking & Monetary Policy	3—3	—	3—3	3—3
Bus 131	Principles of Typing or by exam	—	—	5—0	—
Bus 261	Shorthand Theory	—	—	5—3	—
Bus 439	Business Information Systems	—	3—3	—	—
Math 461	Computer Math II	—	3—3	—	—
	Electives	3—3	—	3—3	3—3

SIXTH SEMESTER

**Geog 101	World Geography	—	3—3	—	—
**Hist 104	History of U.S. & Pa. II	—	3—3	—	—
Eng 301	Literature II	2—2	2—2	2—2	2—2
BM 241	Finance	3—3	3—3	—	3—3
Bus 353	Cost Accounting	3—3	—	—	—
Bus 339	Business Data Processing	3—3	—	3—3	3—3
Bus 132	Intermediate Typewriting	—	—	5—2	—
Bus 262	Shorthand Dictation	—	—	5—3	—
Bus 335	Office Machines	—	—	5—2	—
BM 340	Business Systems Technology	—	3—3	—	—
BM 342	Business Problem Application I	—	3—3	—	—
	Electives	6—6	—	3—3	9—9

SEVENTH SEMESTER

Anth 110	Introduction to Anthropology or				
Soc 151	Introduction to Sociology	3—3	3—3	3—3	3—3
BM 451	Advanced Principles of Accounting	3—3	—	—	—
Econ 330	Industrial and Labor Relations	3—3	—	3—3	3—3
*Bus 321	Business Communications	3—3	—	3—3	3—3
Bus 271	Advanced Typewriting	—	—	5—2	—
Bus 363	Transcription	—	—	5—3	—
BM 443	Business Systems Analysis I	—	3—3	—	—
BM 441	Business Problem Programming	—	3—3	—	—
BM 442	Business Problem Application II	—	3—3	—	—
	Electives	3—3	3—3	3—3	6—6

EIGHTH SEMESTER

**Bus 321	Business Communications	—	3—3	—	—
PolS 111	American Citizenship	3—3	3—3	3—3	3—3
Bus 454	Federal Taxes	3—3	—	—	3—3
Bus 455	Auditing	3—3	—	—	—
Bus 364	Secretarial Office Practice	—	—	5—3	—
BM 470	Office Management	—	—	3—3	—
BM 444	Business Systems Analysis II	—	3—3	—	—
BM 445	Quantitative Methods—Oper. Res.	—	3—3	—	—
	Electives	6—6	3—3	6—6	9—9

* Required in different semester for Systems Analyst majors.

** Required in designated semester for Systems Analyst majors.

THE SCHOOL OF CONTINUING AND NON-RESIDENT EDUCATION

ARTHUR F. NICHOLSON, Dean

The School of Continuing and Non-Resident Education operates the University's two Off-Campus Centers at Punxsutawney and Kittanning. In cooperation with the other Schools of the University, the School of Continuing and Non-Resident Education also holds Saturday Campus Classes and in conjunction with the School of Arts and Sciences schedules undergraduate Evening School Classes for credit.

As an additional phase of Continuing Education, the School runs a fall and spring series in the adult education field entitled the Community-University Studies Series. These courses are for non-credit in various fields of adult education. The courses are established to fill demands and needs of adults in the area served by the University.

The School of Continuing and Non-Resident Education also has some supervision over the cultural affairs of the University and conferences held at the University.

OFF-CAMPUS CENTERS OF INDIANA UNIVERSITY OF PENNSYLVANIA

Indiana University of Pennsylvania now has two off-campus centers operating in the Punxsutawney and Kittanning communities, both about 28 miles from the main campus in Indiana, Pennsylvania.

The first center was established in September, 1962, at Punxsutawney in an attractively renovated building, formerly used by the Punxsutawney School district in the west side of that community at the corner of Winslow and Center Streets. Enrollment at the Punxsutawney Center for 1969-70 will be 325 full and part-time students.

In September, 1963, Indiana University of Pennsylvania established a second center known as the Armstrong County Center located in the former offices of the West Penn Power Company at the corner of Rebecca and McKean Streets in Kittanning. The structure has been neatly renovated into a college instructional building which in 1969-70 will provide for 525 full and part-time students.

Both centers now have resident faculties who are regular university faculty members working full time at the centers. Other faculty from the main campus travel to the centers to provide adequate instructional staff to meet curriculum needs of students for their first year or two of college in general edu-

cation subjects for areas of concentration in a liberal arts school or majors in fields in a school of education.

In most cases, the centers provide one or two full years of college work transferable to the main campus of Indiana University of Pennsylvania or to other accredited colleges. The chairmen of Indiana University of Pennsylvania centers advise with students as to their instructional programs and the best time for transfer to main campus for those in highly specialized areas. The centers and Indiana University of Pennsylvania maintain a close liaison through the Dean of the School of Continuing Education who regularly visits both centers and maintains an office in Indiana.

For the most part students at the centers are persons living in the immediate county areas of the centers. Some students from distant points who cannot find accommodations on the main campus of Indiana University of Pennsylvania are also given the privilege of attending the centers and later transferring to the main campus. Regular procedures for transfer have been established.

Fry Hall I and Fry Hall II at Punxsutawney, Boyer Hall and Trust Hall at Armstrong County Center in Kittanning have been established as dormitories for students needing residence at these respective centers.

Each center has its own library facilities supervised by a professional librarian from the main campus. In addition the centers may draw upon University library facilities and the services of the University in many other areas.

Control of the centers is directly vested with the Indiana University of Pennsylvania administration and Board of Trustees. Advisory Boards from both center areas serve to establish local needs and advise with main university authorities.

Both centers have their own evolving programs of lecture series, social affairs, and other matters vital to a complete college in addition to having access to the resources of Indiana University of Pennsylvania.

Prospective college students from the areas served by the centers and a limited number of others who can not be accommodated on the main campus may apply for admission by requesting application papers from the Registrar's Office, Indiana University of Pennsylvania, or from the director of either the Punxsutawney or Armstrong County Centers.

The same standards and requirements for admission which apply to students at the main campus also apply to both university centers.

For more detailed information on the programs at Indiana University of Pennsylvania Centers, one should write to the Director, Punxsutawney Center, Indiana University of Pennsylvania, Punxsutawney, Pa., or the Director, Armstrong County Center, Indiana University of Pennsylvania, Kittanning, Pa., and request an Off-Campus Centers bulletin. This publication explains the steps necessary for admissions, outlines programs of study, and gives other general details of the two year University Centers.

SATURDAY CAMPUS CLASSES

Saturday Campus Classes are held on the campus on Saturdays (generally between 9:00 A. M. and 1:00 P. M.). Courses are arranged according to the demand for them as indicated by teachers who are interested. This is not extension work. It is credited as "residence" work. Classes are scheduled to enable students to earn as much as six semester hours credit each semester. Persons interested should write for a schedule of courses to the Dean of the School of Continuing Education, Indiana University of Pennsylvania, Indiana, Pa., 15701.

The basic fee for Saturday Campus Classes is $17.50 per semester hour of credit for students who are residents of Pennsylvania with a minimum basic fee of $52.50, and $25.00 per semester hour of credit for students other than residents of Pennsylvania with a minimum basic fee of $75.00. Not more than six semester hours credit may be earned in one semester by one who is doing full time teaching or other employment.

THE CULTURAL LIFE SERIES

The Artists-Lecture Series, administered by the Director of Cultural Affairs in the School of Continuing Education, and financed by the Student Co-operative Association, brings to the Indiana campus speakers on contemporary affairs and artists in the fields of music, dance, musical comedy, lecturers, world travelers and explorers.

During the past year the Artists-Lecture Series presented a series of three quartets in four programs partially sponsored by the National Foundation of the Arts. The Alard Quartet appeared twice with two open rehearsals, followed by the Bernede Quartet from Paris, and the Toledo Quartet from Ohio. John Jacob Niles, composer and arranger, presented a program of folk songs. Helga and Klaus Storck from Cologne, Germany, appeared in a program of cello and harp music, while Frederick Hand presented an evening of music played on the classical guitar. Christiane Van Acker and Michel Podolski, from Belgium, presented a Monteverdi opera assisted by members of the Indiana Music Department and also a program for lute and

soprano. Masuko Ushioda, a prize winner in the Tchaikowsky Competition appeared as violin soloist. The "Studio der Fruehen Musik" played a concert utilizing early and little-known instruments. The Princeton Chamber Orchestra, under the direction of Nicholas Harsanyi, with Janice Harsanyi as soprano soloist, appeared on the program, as did San Francisco opera tenor, James Schwabacher: and a duo piano team Yarbrough and Cowan.

The Boris Goldovsky Company presented the opera **Carmen.** The American composer Ross Lee Finney spent several days on campus to lead the Fourth Contemporary Musical Festival.

Walter Schenkman presented a program of piano music. Else Mayer-Lisman of London appeared in connection with the University Opera Theatre.

The United States Army Field Band and Soldier's Chorus appeared under the sponsorship of the Artists-Lecture Series.

The field of musical comedy was represented by a production of **Man of la Mancha** with a cast from the Broadway Theatre.

In the field of drama the Theatre Royal, Windsor (England) presented **The Beaux' Stratagem,** Viveca Lindfors lead a company in the presentation of an evening of August Strindberg's plays, The National Players offered **The Orestia** of Aeschylus and Shakespeare's **A Midsummer Night's Dream.**

Two travel films, one **By Jeep Around the World** and the other on **Spain,** were presented by Theodore Bumiller while **Antarctic Challenge** was narrated by Captain Finn Ronne.

Paul Taylor and his company presented an evening of Modern Dance.

Lecturers were John Ciardi, Gerald Torkelson, Kurt Weege, Saul Maloff, and The Honorable Ferenc Nagy.

THE SCHOOL OF EDUCATION

GEORGE A. W. STOUFFER, JR., Dean

The School of Education is designed to enable the student to pursue a program of study in general education, a program of major study within an academic or special field, and a program of professional education that will qualify the student for certification to teach in the public schools of the Commonwealth of Pennsylvania. Students who meet all of the requirements for graduation from this school will be granted the Provisional College Certificate to teach the subjects within their respective fields of major study.

General Education

All students in the School of Education are required to take the same program of 55 semester hours in general education as is required of all students in the School of Liberal Arts.

PROFESSIONAL EDUCATION AND CERTIFICATION

Certification standards, established by the Department of Public Instruction and the State Council on Education, require work in the field of professional education. In accordance with these standards all students in the School of Education are required to take the following courses in professional education—History and Philosophy of American Education, Educational Psychology, Evaluation Methods (except in certain special departments), Audio-Visual Education and one or more methods courses, INVOLVING LABORATORY EXPERIENCES, within their major field of academic study or specialization. In addition all students in this school are required to do a semester of student teaching under the supervision of a cooperating teacher and a university superviser.

Laboratory experiences, designed to clarify theoretical concepts of learners and learning processes, are provided through direct experiences in classrooms or observation by television.

Student teaching is a full-time, full semester experience in University School or in a public school known as a student teaching center. Student teachers under careful supervision perform the many role functions of teachers and develop attitudes, understandings, skills, and other competencies essential for success in the profession. Teachers wishing to extend their area of certification or replace the State Standard Limited Certificate may be permitted to take student teaching during the summer session.

Professional Practicum including School Law is taken as a part of the student teaching experience. This course, organized in two parts, is scheduled concurrently with student teaching. One part is designed to help students gain an overview and understanding of the total school program and a knowledge of Pennsylvania school laws governing education. The second part is intended to help students gain breadth and depth in understanding the role of the classroom teacher in a particular area of specialization.

The professional education requirement amounts to approximately 27 semester hours within the 124 semester hours required for graduation.

The College Provisional Certificate is issued to the beginning teacher upon graduation from this school. The Provisional College Certificate can be made permanent upon the completion of from three to six years of successful teaching during which period the teacher must have taken twenty-four semester hours of additional college work. These credits may be earned at either the undergraduate or graduate level.

UNIVERSITY SCHOOL. The University School provides for a program of instruction from kindergarten through sixth grade, thus affording opportunities for professional laboratory experiences and research activities. Professional laboratory experiences, such as observation, participation, and student teaching, may be planned and scheduled with the Director of Professional Laboratory Experiences. Research activities may be scheduled with the Director of the University School.

Fields of Major Study

The School of Education offers programs of major study leading to certification in the following academic fields—

Biology
Chemistry
Earth Science
Geo-Science
English
French
Geography
German
History
Mathematics
Physics
Russian
Social Science
Spanish

The School of Education offers programs of major study leading to certification in the following special fields—

Dental Hygiene
Education for Safe Living
Elementary
Public School Nursing
Rehabilitation Education
Speech and Hearing Correction
Education for the Mentally Retarded

The required courses in the foregoing fields and the sequence in which they are to be taken are indicated on the pages following.

BIOLOGY DEPARTMENT

FRANCIS W. LIEGEY, Chairman

Requirements for Biology Majors.

The major in Biology consists of 25 semester hours credit. In addition supporting courses in Chemistry, Mathematics, and Physics are required.

FIRST SEMESTER

	Sem. Hrs.
General Biology I	4
General Chemistry I	4
English I	4
Intro to Art or	
Intro to Music or	
Intro to Theater	3
Military Science or	1½
Health	2
	16½-17

SECOND SEMESTER

	Sem. Hrs.
General Biology II	4
General Chemistry II	4
English II	4
General Elective	3
Military Science or	1½
Phys. Ed I (Women)	1
	16-16½

THIRD SEMESTER

Foreign Language or	
General Elective	3
Organic Chemistry I	4
General Psychology	3
Biology Elective	3
Soc. Sci. Elective	3
Phys Ed I (Men)	½
	16-16½

FOURTH SEMESTER

Foreign Language or	
General Elective	3
Algebra & Trigonometry	5
Genetics	3
Lit I or II	2
Biology Elective	3
Phys Ed II (Men)	½
	16-16½

FIFTH SEMESTER

Physics I	4
History of U.S. & Pa. II	3
Biochemistry	3
Ecology	3
Audio Visual Education	2
	15

SIXTH SEMESTER

Physics II	4
Educational Psychology	3
Tch. Sci. in Sec. Schools	3
Social Science Elective	3
Evaluation Methods	2
	15

SEVENTH SEMESTER

General Physiology	3
Biology Electives	4
Soc. Sci. Electives	3
History & Philosophy of Ed.	3
Biology Seminar	1-3
	14-16

EIGHTH SEMESTER

Student Teaching	12
Prof. Practicum	2
	14

CHEMISTRY DEPARTMENT

PAUL R. WUNZ, Chairman

Requirements for B.S. in Education

FIRST SEMESTER

	Cr.
Chem 111 Gen. Chem I	4
Eng 101 English I	4
Math 152 Alg. & Trig.	5
MS 101 Military Science I or	1½
HPe 101 Health	2
	14½-15

SECOND SEMESTER

	Cr.
Chem 112 Gen. Chem. II	4
Eng 101 English II	4
Math 157 Anal. Geom. & Calc. I	4
MS 102 Military Science I or	1½
HPe 102 Phys. Ed. I (Women)	1
Art 101 Intro to Art or	
Mus 101 Intro to Music or	
Intro to Theater	3
	16-16½

THIRD SEMESTER

Chem 231 Org. Chem. I	4
Math 257 Calc. II	4
Phy 111 Physics I	4
Psy 201 Gen. Psy.	3
Eng 201 Lit. I or	
Eng 301 Lit. II	2
	17

FOURTH SEMESTER

Chem 232 Org. Chem. II	4
Math 357 Calc. III	4
Phy 112 Physics II	4
LRes 301 Audio Vis. Ed.	2
Humanities Elective	3
	17

FIFTH SEMESTER

Chem 321 Quant. Anal.	4
Chem. 341 Phy. Chem. I	4
Ed Psy 302 Ed. Psy.	3
Ed 302 Hist. & Phil. Amer. Ed.	3
Humanities Elective	3
	17

SIXTH SEMESTER

Chem 322 Inst. Anal.	4
Chem 342 Phy. Chem. II	4
Ed 451 Teaching Sci. in	
Secondary School	3
Ed Psy 305 Evaluation Methods	2
Humanities Elective	3
	16

SEVENTH SEMESTER

Hist 103 Hist. U.S. & Pa.	3
Soc. Sci. Electives	9
Science Elective	3-4
	15-16

EIGHTH SEMESTER

Ed 421 Student Teaching	12
Ed 422 Prof. Pract. & School Law	2
	14

EARTH AND SPACE SCIENCE

(Geoscience Department)

ROBERT L. WOODARD, Acting Chairman

FIRST SEMESTER

	Cr.
Eng 101 English I	4
Math 152 Alg. & Trig.	5
Phys 111 Physics I	4
MS 101 Military Science and/or Physical Education	2
	15

SECOND SEMESTER

	Cr.
Eng 102 English II	4
Math 157 Anal. Geom. & Calculus I	4
Phys 112 Physics II	4
MS 102 Military Science and/or Physical Education	2
Art, Music or Drama	3
	17

THIRD SEMESTER

Chem 111 General Chemistry I	4
Geos 111 Solar System	3
Psy 201 General Psychology	3
Foreign Language or Humanities Elective	3
Social Science Elective	3
	16

FOURTH SEMESTER

Chem 112 General Chemistry II	4
Geos 112 Stellar Astronomy	3
English Literature	2
Foreign Language or Humanities Elective	3
Social Science Elective	3
	15

FIFTH SEMESTER

Bio 103 General Biology I	4
Geos 121 Physical Geology	3
Geos 241 Meteorology I	3
Ed 305 Evaluative Methods	2
Psy 302 Educational Psychology	3
	15

SIXTH SEMESTER

Bio 104 General Biology II	4
Geos 122 Historical Geology	3
Geos 247 Oceanography	3
Ed 302 History & Phil. of Am. Ed.	3
Ed 301 Audio-Visual Education	2
	15

SEVENTH SEMESTER

Hist 104 History of U.S. & Pa. II	3
Social Science Elective	3
Ed 451 Teach. Sci. Sec. School	3
Electives, including geoscience & general	8
	17

EIGHTH SEMESTER

Ed 421 Student Teaching	12
Ed 422 Practicum	2
	14

DENTAL HYGIENIST

GEORGE A. W. STOUFFER, JR., Director

The Board of Presidents of the State Colleges approved on November 17, 1950, a curriculum for dental hygienists leading to the degree of bachelor of science in education. The requirements shown below must be met.

1. The satisfactory completion of an accredited two-year curriculum for the preparation of dental hygienists approved by the State Dental Council and Examining Board.
2. The licensing of the student by the proper state authorities.
3. The satisfactory completion in addition thereto of 64 semester hours of professional and general education courses distributed as follows:

General Education		36
Eng 101 and 102 English I and II	8	
Eng 201 and 301 Literature I and II	4	
Fine Arts	3	
Art 101 Introduction to Art or Mus 101 Introduction to Music		
Geography	3	
Geog 112 Geography of the United States and Pa.		
Social Studies	6	
Hist 101 and 102 History of Civilization I and II		
PolS 111 American Citizenship		
Econ 121 Principles of Economics		
Hist 104 History of U.S. and Pa. II		
Soc 151 Principles of Sociology		
Education		14
Ed 302 Hist. & Phil. of Am. Ed.	3	
Psy 201 General Psychology	3	
EdPsy 302 Educational Psychology	3	
Psy 352 Mental Hygiene	3	
LRes 301 Audio-Visual Education	2	
Electives		14
Total		64

In each category above, credit will be given for equivalent courses in the two-year dental hygiene curriculum. In such cases students will be permitted to increase their electives by the number of semester hours so credited.

Electives may be chosen with the approval of the dean of instruction from any field or curriculum offered at the college in which the student is enrolled.

In the case of dental hygienists who have had less than two years of special training on the basis of which they have been licensed by the State Dental Council and Examining Board such persons will pursue additional courses in college to fulfill the requirements for the degree.

GEOSCIENCE

ROBERT L. WOODARD, Acting Chairman

The geoscience department provides for the needs of the students and curricula in areas of natural science dealing with and related to the earth and its environment. This department offers courses in astronomy, geology, meteorology, and oceanography. The opportunity is provided for taking an undergraduate major in geology leading to either a Bachelor of Arts or a Bachelor of Science degree. Students with professional aspirations in astronomy, meteorology, or oceanography will have opportunities to take an introductory level course in the fields of their choice and will be counseled in the selection of mathematics and science courses which will prepare them for graduate study in those areas.

It is the philosophy and desire of the department to teach certain astronomy and geology courses which may be taken by students from any department on campus. These courses are meant to stimulate an intellectual curiosity about ones environment which any scholar may have.

The department also recognizes as one of its primary functions the role of serving the field of public education by the preparation of qualified and certificated teachers of earth and space science. The curriculum for this education major will be found on page .

Geology Majors

Two degrees are offered in geology. One, the Bachelor of Arts degree is a terminal degree designed to equip geology majors with the necessary background for obtaining certain positions as professional geologists, upon graduation. Qualified holders of the B.A. degree in geology may anticipate careers in urban geology, engineering geology, and certain phases of economic geology, dealing with both the exploration for and the exploitation of natural resources.

The Bachelor of Science degrees in geology is designed for those students who are interested in pursuing their education beyond the level of the baccalaureate degree. Many professional careers in geology and associated geosciences require graduate school training. The B.S. program in geology is designed to provide the necessary background for admission to graduate school.

The requirements for fulfillment of the two degrees in geology will be found below in the form of a summary of requirements for each degree and a suggested program (subject to modification) for fulfilling these requirements.

B.S. in Geology

Summary Statement

Requirements for graduation—124 Semester hours required

	credit hours	
General Education Requirements		
Humanities	19	
Social Science	15	
Military Science and Physical Education	4	38
Geology Requirements	24	24
Geoscience Requirements	9	9
Allied Science		
Math	12	
Biology	8	
Chemistry	8	
Physics	8	36
Electives	17	17
	Total	124 hours

B.S. Program in Geology (Pre-Professional)

Suggested Programming

FIRST SEMESTER

	Cr.
Bio 103 Biology I	4
Math 152 Alg. & Trig.	5
Geos 121 Physical Geology	3
Foreign Language (suggested)	3†
MS 101 Military Science and HPe 110 Physical Education I‡ (Men)	1½ ½†
	17

SECOND SEMESTER

	Cr.
Bio 102 English II	4
Math 157 Anal. Geom. & Calculus I	4
Geos 122 Hist. Geology	3
Foreign Language (suggested)	3†
MS 102 Military Science and HPe 111 Physical Education II‡ (Men)	1½ ½†
	17

THIRD SEMESTER

Eng 101 English I	4†
Chem 111 General Chemistry I	4
Geos 231 Mineralogy	3
Social Science	3†
Math.	3
	17

FOURTH SEMESTER

Eng 102 English II	4†
Chem 112 General Chemistry II	4
Geos 223 Paleontology	3
Social Science	3†
Elective	3
	17

FIFTH SEMESTER

Phys 111 Physics I	4
Geos 235 Structural Geology	3
English Literature	2†
Social Science	3†
Elective	3
	15

SIXTH SEMESTER

Phys 112 Physics II	4
Petrology or Sedimentology	3
Geoscience option	3
Social Science	3†
Elective	3
	16

SEVENTH SEMESTER		EIGHTH SEMESTER	
Geoscience option*	3	Geoscience option*	3
Social Science	3†	Geol. Sem.	1
Elective	2-3	Elective	2-3
Elective	2-3	Elective	2-3
Elective	2-3	Elective	2-3
	12-15		10-13

‡ May be taken in Third & Fourth Semesters.

† General Education Requirements

* Geoscience option: Astronomy, Meteorology, Oceanography (1 year sequence of one and 1 semester minimum of another)

B.A. Program in Geology

Summary Statement

Requirements for graduation—124 Semester hours required

General Education Requirements	credit hours	
Humanities	19	
Social Science	15	
Military Science and/or Physical Education	4	38
Geology Requirements	30	30
Geoscience Requirements	6	6
Allied Sciences (Math, Physics, Chemistry)	16	16
Electives	34	34
	Total	124 hours

B.A. Program in Geology (Vocational) Suggested Programming

FIRST SEMESTER	Cr.	SECOND SEMESTER	Cr.
Eng 101 English I	4†	Eng 102 English II	4†
Math 152 Alg. & Trig.	5	Math 157 Anal. Geom. & Calculus I	4
Geos 121 Physical Geology	3	Geos 122 Hist. Geology	3
Foreign Language (suggested)	3†	Foreign Language (suggested)	3†
MS 101 Military Science and HPe 110 Physical Education I (Men)‡	1½ ½†	MS 102 Military Science and HPe 111 Physical Education II (Men)‡	1½ ½†
	17		16

THIRD SEMESTER		FOURTH SEMESTER	
Chem 111 General Chemistry I	4	Chem 112 General Chemistry II	4
Geos 231 Mineralogy	3	Geos 223 Paleontology	3
English Literature	2†	Art, Music or Drama	3†
Social Science	3†	Social Science	3†
Elective	3	Elective	3
	15		16

FIFTH SEMESTER		SIXTH SEMESTER	
Phys 111 Physics I	4	Phys 112 Physics II	4
Geos 235 Structural Geology	3	Geology Elective	3
Geoscience Elective*	3	Geoscience Elective*	3
Social Science	3†	Social Science	3†
Elective	2-3	Elective	2-3
	15-16		15-16

Summer of Junior Year — Geology Field Camp — 5 credits

SEVENTH SEMESTER		EIGHTH SEMESTER	
Geology Elective	3	Geology Elective	3
Geology Seminar	1	Geology Seminar	1
Social Science	3†	Elective	2-3
Elective	2-3	Elective	2-3
Elective	2-3	Elective	2-3
Elective	2-3	Elective	2-3
	13-16		12-16

‡ May be taken in Third and Fourth Semesters.
† General Education Requirements
* Geoscience Electives—Meaning here; Astronomy, Meteorology, Oceanography.

GEOSCIENCE MAJOR

One general degree, Bachelor of Science, is offered for the student desiring to pursue graduate work in astronomy, meteorology, or oceanography. The objective of this department is to provide a suitable background of mathematics and science courses with which one may confidently approach graduate studies in the area of his choice. Only introductory courses are offered for orientation toward the ultimate goal; the professional training being the role of graduate study. Each individual program will be closely supervised by a faculty member aware of graduate school demands and the student's goal.

Indiana University of Pennsylvania is a participant in a Consortium on Oceanography operating at the Delaware Bay Marine Science Center at Lewes, Delaware. This facility provides an opportunity for field experience in oceanography, marine geology and marine biology both during the regular academic year and through an extensive summer program.

B.S. in Geoscience

Summary Statement

Requirements for Graduation—124 Semester hours required

General Education Requirements

	credit hours	
Humanities	19	
Social Science	15	
Military Science and/or Physical Education	4	38

Mathematics and Science		
Mathematics - Through Calculus	12-17	
First year Biology, Chemistry, Physics	24	
Second year Chemistry or Physics	6	
Orientation in objective field	6	
Geoscience electives	12	60-65
General Electives		
Including, but not restricted to, more science and mathematics	21-26	21-26
	Total	124 hours

B.S. in Geoscience

Suggested Programming

FIRST SEMESTER

	Cr.
Eng 101 English I	4
Math 152 Algebra and Trig.	5
Phys 111 Physics I	4
MS 101 Military Science and	1½
HPe 110 Physical Education I (Men)‡	½
	15

SECOND SEMESTER

	Cr.
Eng 102 English II	4
Math 157 Anal. Geom. & Calculus I	4
Phys 112 Physics II	4
MS 102 Military Science and	1½
HPe 111 Physical Education II (Men)‡	½
Art, Music or Drama	3
	17

THIRD SEMESTER

Chem 111 Chemistry I	4
Math 257 Anal. Geom. & Calculus II	4
Foreign Language	3
Social Science	3
Literature	2
	16

FOURTH SEMESTER

Chem 112 Chemistry II	4
Math 357 Anal. Geom. & Calculus III	4
Foreign Language	3
Social Science	3
	14

FIFTH SEMESTER

Bio 103 Biology I	4
Objective Orientation	3
Physics or Chemistry	3
Social Science	3
Geoscience Elective	3
	16

SIXTH SEMESTER

Bio 104 Biology II	4
Objective Orientation	3
Physics or Chemistry	3
Social Science	3
Geoscience Elective	3
	16

SEVENTH SEMESTER

Geoscience Elective	3
Social Science	3
Electives	9
	15

EIGHTH SEMESTER

Geoscience Elective	3
Electives	12
	15

SPECIAL EDUCATION AND CLINICAL SERVICES

MORTON MORRIS, Chairman

This Department offers three options for students whose major interest is working with exceptional children and adults. Each of the three options follows a prescribed sequence of courses. Students may elect to major in any one of the following fields of exceptionality, namely,

(A) Education for the Mentally Retarded
(B) Speech Pathology and Audiology
(C) Rehabilitation Education

The first two major areas lead to certification in the Pennsylvania Public Schools. The third area—Rehabilitation Education—prepares student majors seeking career opportunities with state and federal rehabilitation agencies and with private health and welfare agencies and institutions.

Education for the Mentally Retarded

A coordinated program of not less than 48 semester hours is required, leading to comprehensive certification to teach the mentally retarded.

FIRST SEMESTER

	Sem. Hrs.
Eng 101 English I	4
Biol 103 General Biology I or Sci 105 Physical Science I	4
SpE 220 Intro to Except'l. Child	3
HPe 101 Health (or)	2
MS 101 Military Science I	1½
Art 101 Intro to Art or Mus 101 Intro to Music or Eng 101 Intro to Theater	3
	15½-16

SECOND SEMESTER

	Sem. Hrs.
Eng 102 English II	4
Biol 104 General Biology II or Sci 105 Physical Science II	4
Math 160 Numeration Theory I	3
SpH 254 Speech Dev. & Improv. or SpE 255 Development of Lang. in Chldrn.	3
MS 102 Military Science I (or)	1½
Electives	2-3
	15½-17

THIRD SEMESTER

HPe 102 Physical Educ. I	½-1
Psy 201 General Psychology	3
Ed 362 Developmental Reading or El 222 Teaching of Reading	3
Soc 151 Princ. of Sociology	3
Humanities Electives*	6
	15½-16

FOURTH SEMESTER

HPe 203 Physical Educ. II	½-1
Hist 102 History of Civ. II	3
SpE 215 Child Development	3
Ed 301 Audio-Visual Educ.	2
EdPsy 302 Educ. Psychology	3
Eng 201/ 301 Literature I or II	2
Humanities (or) Nat. Sci. Elective	3
	16½-17

FIFTH SEMESTER

Hist 104 Hist. of U.S. & Pa. II	3
EdPsy 305 Evaluation Methods	2
Art 330 Arts & Crafts for MR	3
Geog 251 Anglo-American Geography	3
SpE 320 Psychology of the MR	3
Electives	2
	16

SIXTH SEMESTER

Ed 302 Hist. & Phil. of Am. Educ.	3
El 313 Tchg. of Math for El. Schl.	3
Psy 352 Mental Hygiene or	
SpE 216 Mental Health In Schls.	3
SpE 301 Rdg. & LA for MR	3
Electives	3
	15

SEVENTH SEMESTER

PolS 111 American Citizenship	3
Anth 110 Intro. to Anthro. (or)	
Econ 101 Basic Economics	3
SpE 431 Curriculum & Methods for the MR	3
SpE 411 Health & Phys. Ed. for the Exceptional Child	2
Electives	5
	16

EIGHTH SEMESTER

Ed 421 Student Teaching of the Mentally Retarded	12
Ed 422 Professional Practicum & School Law	2
	14

* Student majors in this curriculum may substitute Foreign Language (completion of intermediate sequence) instead of 6 semester hours of Humanities/Natural Science electives.

SPEECH PATHOLOGY AND AUDIOLOGY

The major in Speech Pathology and Audiology consists of 40 semester hours. Thirty-one are required in Speech Pathology and Audiology, 6 in related areas, and one elective may be chosen in the department or in a supporting field.

FIRST SEMESTER

	Sem. Hrs.
Eng 101 English I	4
Bio 103 Gen. Biology I or	
Sci 105 Phys. Science I	4
Art 101 Intro. to Art or	
Mus 101 Intro. to Music or	
Eng 103 Intro. to Theater	3
SpH 111 Fundamentals of Speech and Hearing	3
HPe 101 Health Education or	
MS 101 Military Science I	2
	16

SECOND SEMESTER

	Sem. Hrs.
Eng 102 English II	4
Bio 104 Gen. Biology II or	
Sci 106 Physical Science II	4
SpH 122 Phonetics	3
Math 101 Foundations of Math	3
Hpe 102 Physical Ed. I or	(1)
MS 102 Military Science I	2
	15-16

THIRD SEMESTER

Psy 201 General Psychology	3
SpE 220 Intro. to Except. Child.	3
SpH 251 Anat. and Physiology of Sph. & Hear. Mech.	3
Hist 102 Hist. of U.S. & Pa. II	3
Humanities Elective	3
HPe 201 Physical Ed. II	1
	16

FOURTH SEMESTER

EdPsy 302 Educational Psychology	3
Social Science Elective	3
SpH 222 Intro. to Audiology	3
SpH 232 Sp. Pathology I (Non-Organic)	3
General Electives	3
	15

FIFTH SEMESTER

Eng 201 Lit. I or Lit. II	2
SpE 215 Child Development	3
SpH 321 Psy. of Sp. & Language	3
SpH 311 Sp. Rd. & Aud. Training	3
SpH 331 Sp. Pathology II (Organic)	3
SpH 310 Speech Clinic I	2
	16

SIXTH SEMESTER

Ed 301 Audio-Visual Ed.	2
SpH 312 Org. and Admin. of Speech and Hearing Programs	3
SpH 320 Speech Clinic II	2
Psy 352 Mental Hygiene	3
Social Science Elective	3
Ed 302 Hist. & Phil. of American Ed.	3
	16

SEVENTH SEMESTER

Ed 302 Statistics	3
Ed 263 Developmental Reading or El 222 Teaching of Reading	3
Social Science Elective	3
Humanities Electives	3
General Electives	4
	16

EIGHTH SEMESTER

Ed 401 Stud. Teach.—Speech Pathology and Audiology	12
ED 402 Fundamental Law	2
	14

REHABILITATION EDUCATION

FIRST SEMESTER

	Sem. Hrs.
Eng 101 English I	4
Biol 103 General Biology I (or) Sci 105 Physical Science I	4
SpE 220 Intro. to Except. Child	3
HpE 101 Health (or)	(2)
MS 101 Military Science I	(1½)
Art 101 Intro. to Art or Mus 101 Intro. to Music or Eng 103 Intro. to Theatre	3
	15½-16

SECOND SEMESTER

	Sem. Hrs.
Eng 102 English II	4
Bio 104 General Bio. II (or) Sci 106 Physical Science II	4
Math 101 Foundations of Math I	3
MS 102 Military Science I (or)	(1½)
Electives	2- 3
SpE 255 Language Development in Children	3
	15½-17

THIRD SEMESTER

HPe 102 Physical Educ. I	(½) or 1
Phil 330 Philosophy of Science	3
Psy 201 General Psych.	3
Soc 151 Principles of Sociology	3
Econ 101 Basic Economics	3
Humanities Elective	3
	15½-16

FOURTH SEMESTER

HPe 203 Physical Educ. II	(½) or 1
SpE 215 Child Development	3
Psych 371 Personality	3
Eng 201/301 Literature I or II	2
Hist 102 Hist. of Civilization II	3
Free Electives	4
	15½-16

FIFTH SEMESTER

SpE 320 Psychology of the MR	3
Psych 461 Abnormal Psych.	3
Ed 302 Hist. & Phil. of American Educ.	3
SpR 310 Physical Basis of Disability	3
Soc 336 Sociology of the Family	3
Free Elective	2
	17

SIXTH SEMESTER

CnEd 251 Fundamentals of Guidance	3
SpR 320 Principles & Methods of Rehabilitation	3
SpR 321 Psychological Basis of Disability	3
Psych 352 Mental Hygiene (or) SpE 216 Mental Health in Schools	3
Natural Science Elective	3
	15

SEVENTH SEMESTER

SpR 410 Field Training in Rehabilitation	6
SpR 411 Occupational Information	3
Soc 333 Juvenile Delinquency	3
Soc 338 Intro. to Social Work	3
	15

EIGHTH SEMESTER

SpR 420 Field Training in Rehabilitation II	6
SpR 421 Clinical Info. in Rehabilitation	3
Phil 222 Ethics	3
Hist 104 Hist. of U.S. & Pa. II	3
	15

ELEMENTARY EDUCATION

P. DAVID LOTT, Chairman

The required courses for a degree in Elementary Education are listed below. It is expected that most of the electives will be used in one academic field, so that when they are combined with the general education requirements in that field, a concentration of at least 18 credits will be attained. The areas of concentration are English, French, Geography, German, History, Mathematics, Science, Social Studies and Spanish.

It is recommended that students who plan to major in elementary education should have high school biology, chemistry, physics, and at least two years of academic mathematics. Students will find this background helpful in taking college level courses in science and mathematics.

(Course sequence subject to change depending upon academic concentration or for administrative purposes.)

FIRST SEMESTER

	Sem. Hrs.
Eng 101 English I	4
Sci 105 Physical Science I	4
Geog 101 World Geography	3
HPe 101 Health or	2
MS 101 Military Science I	1½
Math 160 Numeration Theory I	3
	15½-16

SECOND SEMESTER

	Sem. Hrs.
Eng 102 English II	4
Sci 106 Physical Science II	4
Geog 112 Geography of U.S. and Pa.	3
HPe 102 Physical Ed. I (women)	1
MS 102 Military Science I	1½
Math 250 Numeration Theory II	3
	15½-16

THIRD SEMESTER

Art 101 Introduction to Art or Mus 101 Introduction to Music or Introduction to Theater	3
Foreign Language or Humanities Elective*	3
Hist 104 History of U.S. & Pa. II	3
El 221 Children's Literature	3
El 213 Art for the Elem. Grades	2
Elective	2
HPe 110 Physical Ed. I (men)	½
	16-16½

FOURTH SEMESTER

Foreign Language or Humanities Elective*	3
Psy 101 General Psychology	3
El 222 Teaching of Reading	3
El 313 Teaching Mathematics in the Elementary School	3
El 211 Music for the Elem. Grades	2
HPe 203 Physical Ed. II (women)	1
HPe 111 Physical Ed. II (men)	½
	14½-15

FIFTH or SIXTH SEMESTER	
Ed 302 History and Philosophy of American Education	3
EdPsy 302 Educational Psychology	3
El 314 Teaching of Health and Physical Education	2
Social Science Elective**	3
Electives	6
	17

SEVENTH or EIGHTH SEMESTER	
El 312 Teaching of Elementary Science	3
Social Science Electives**	3
Ed 301 Audio-Visual Education	2
EdPsy 305 Evaluation Methods	2
Electives	6
	16

FIFTH or SIXTH SEMESTER	
Eng 302 Literature II	2
Psy 215 Child Development	3
Bio 311 Environmental Biology	4
Ed 321 Student Teaching	6
	15

SEVENTH or EIGHTH SEMESTER	
El 411 Teaching of Social Studies	3
El 413 Teaching of Language Arts	3
Ed 422 Professional Practicum and School Law	2
Ed 421 Student Teaching	6
	14

* Humanities Electives: Phil 328 Aesthetics, Art 115 Art History I or Art 116 Art History II, Phil 222 Ethics, Hist 101 History of Civilization I, Phil 221 Logic, Eng 271 Modern American Fiction, Mus 301 Music History I, Phil 120 Philosophy, Eng 261 The English Bible as Literature, Phil 110 Basics of Religious Thought and Practice.

** Social Science Electives: Hist 102 History of Civilization II, PolS 111 American Citizenship, Anth 110 Introduction to Anthropology, Soc 251 Introduction to Sociology, Econ 121 Principles of Economics.

ENGLISH EDUCATION

CRAIG G. SWAUGER, Chairman

The student who is a candidate for the degree of Bachelor of Science in Education with an English major must take a minimum of 36 hours in English (not counting Eng 101 and 102) in order to satisfy the requirements for certification. Since English majors do not take a minor, many of them augment the basic required program with courses that will prepare them for graduate study in their profession of secondary English teaching. Their advisors work closely with them throughout the four years to assist in the scheduling of general education, professional education, required and elective English courses, and free electives.

It should be noted that a major in English Education must complete the intermediate sequence of a modern foreign language.

FIRST SEMESTER	
Eng 101 English I	4
Biol 103 Biological Science I, or Sci 103 Physical Science I	4
*Foreign Language	3
Art 101 Introduction to Art, or Mus 101 Introduction to Music, or Eng 103 Introduction to Theatre	3
HPe 101 Health (women) or	2
MS 101 Military Science I	1½
	15½-16

SECOND SEMESTER	
Eng 102 English II	4
Biol 104 Biological Science II, or Sci 104 Physical Science II	4
*Foreign Language	3
HPe 102 Physical Ed. I (women) or	1
MS 102 Military Science I	1½
Social Science Elective	3
	15-15½

THIRD SEMESTER

Eng 211 Classical Literature	3
Eng 212 American Lit. to 1865	3
Math 101 Foundations of Math	3
HPe 203 Physical Ed. II (women)	1
Physical Activity (men)	½
Social Science Elective	3
Humanities Elective	3
	15½-16

FOURTH SEMESTER

Hist 104 History of U.S. and Pa. II	3
Psy 201 General Psychology	3
Eng 251 History of Eng. Language	3
Physical Activity (men)	½
Social Science Elective	3
English Elective	3
	15-15½

FIFTH SEMESTER

Eng 363 Structure of English	3
EdPsy 302 Ed. Psychology	3
English Electives	6
Free Elective	3
	15

SIXTH SEMESTER

Eng 221 Journalistic Writing, or	
Eng 222 Advanced Composition, or	
Eng 223 Creative Writing	3
English Electives	9
Free Electives	6
	18

SEVENTH SEMESTER

Ed 451 Tch. of English, Speech and Reading	3
EdPsy 305 Evaluation Methods	3
English Electives	6
Free Elective	3
	15

EIGHTH SEMESTER

Ed 421 Student Teaching	12
Ed 422 Professional Practicum and School Law	2
	14

* English Education majors may complete the intermediate sequence in a modern foreign language in one of three ways: by examination, by earning credit in the 3rd and 4th semesters of a language begun in secondary school, or by completing 4 semesters of a new language.

Required courses for a major in English Education:

Eng 211 Classical Literature (Instead of Eng 201 or Eng 301, one credit counted toward the major)
Eng 212 American Literature to 1865
Eng 222 Advanced Composition (Eng 221 or Eng 223 may be substituted)
Eng 363 The Structure of English
Ed 451 The Teaching of English, Speech, and Reading

ELECTIVE COURSES:

With the help of his advisor the English Education major will select at least two period courses and one form course from the following list and additional courses to satisfy the 36 credit-hour minimum requirement.

Eng 213 Pre-Renaissance
Eng 214 Shakespeare
Eng 215 The Augustans
Eng 216 The Romantic Movement
Eng 217 Victorian Literature
Eng 218 The Age of Spenser
Eng 219 The Age of Milton
Eng 224 The Metaphysical Poets
Eng 241 The Rise of the English Novel
Eng 242 The American Novel

Eng 243 Contemporary Short Fiction
Eng 244 Poetry and Its Forms
Eng 245 Modern Drama
Eng 246 Modern American Literature
Eng 248 The Age of Johnson
Eng 261 The English Bible as Literature
Eng 271 Modern American Fiction
Eng 351 English Drama to the Restoration
Eng 353 Restoration Literature
Eng 355 Modern European Literature
Eng 356 The English Essayists
Eng 357 The English Novel: Conrad to the Present
Eng 358 Criticism of Contemporary Writing
Eng 359 Seminar in English Studies
Eng 360 The Nineteenth Century English Novel
Eng 364 Trends in Linguistics

One of the following courses may be counted toward the 36-hour major in English Education.

Eng 133 Newspaper Reporting
Eng 231 Dramatic Arts
Eng 232 Oral Reading
Eng 469 Oral Interpretation
Eng 472 Public Speaking

The following two courses added to the English major will qualify a student for additional certification in reading.

Ed 362 Developmental Reading
El 352 Diagnostic & Remedial Reading

FOREIGN LANGUAGES

CHARLES W. FAUST, Acting Chairman

The major in a foreign language consists of 33 semester hours credit beyond the college elementary sequence 151-152 or equivalent high school preparation, plus the departmental methods course Ed 451, The Teaching of Foreign Languages in the Secondary School.

Specialization in a Foreign Language

A student may work for certification in French, German, Latin, Russian, or Spanish. It is assumed that he will have had at least two years in high school in the language of his choice. He will then begin with the sequence 251-252 and will take concurrently with those courses 053-054, Oral Practice III and IV. If he has not had the language of specialization in high school, he will begin with 151-152 and 051-052, Oral Practice I and II. 151-152 are not counted toward the major.

Language Laboratory

Course titles which bear a number beginning with "0" are oral practice courses conducted in the language laboratory, and demand independent laboratory work as a major part of

preparation. 055 and 056 are advanced conversation courses which may be conducted in the classroom and/or the laboratory.

The Pennsylvania-Valladolid Study in Spain Program

Indiana University of Pennsylvania is charged by the Department of Public Instruction with the organization and administration of this Program for the benefit not only of Indiana students but also students in the Pennsylvania State Colleges. The Program is designed primarily to improve the preparation of future teachers of Spanish but participation is not a requirement for graduation. Students who participate in the Program will normally have completed the first semester of the junior year. The Program runs annually during the spring semester at the University of Valladolid, Spain, under the supervision of a staff member of the Department of Foreign Languages and a Spanish resident director. A total of 18 hours may be earned in the areas of Spanish language, Literature and Culture. For further details consult the current brochure printed annually. Students enrolled in the School of Education and the School of Arts and Sciences are eligible to participate.

DEPARTMENT OF FOREIGN LANGUAGES

School of Education*

FIRST SEMESTER

Eng 101 English I	4
Biol 103 General Biology I or Chem 111 General Chemistry I or Sci 105 Physical Science I or Phys 111 Physics I	4
HPe 101 Health (women)	2
MS 101 Military Science I (men)	1½
FL 251 Language III	3
FL 053 Oral Practice III	2
HPe 110 Physical Education (men)**	½
	15

SECOND SEMESTER

Eng 102 English II	4
Biol 104 General Biology II or Chem 112 General Chemistry II or Sci 106 Physical Science II or Phys 112 Physics II	4
HPe 102 Physical Ed. I (women)	1
MS 102 Military Science I (men)	1½
Art 101 Intro. to Art or Mus 101 Intro. to Music or Eng 103 Intro. to Theater	3
FL 252 Language IV	3
FL 054 Oral Practice IV	2
women	17
men	17½

THIRD SEMESTER

Eng 201 Lit. I (Tragic Themes in Lit.) or Eng 301 Lit. II (Lit. of Social Criticism)	2
Hist 101 Hist. Civ. I	3
HPe 203 Phys. Ed. (women)	1
FL 351 Advanced Language I	3
FL 055 Advanced Oral Practice I	1
FL 361 Culture and Literature I	3
Free Elective (women)	3
Free Electives (men)	6
women	16
men	18

FOURTH SEMESTER

Hist 102 Hist. Civ. II	3
Psy 201 Gen. Psych.	3
FL 352 Advanced Language II	3
FL 056 Adv. Oral Practice II	1
FL 362 Culture and Literature II	3
Free Elective	3
HPe 111 Physical Ed. (men)**	½
women	16
men	16½

FIFTH SEMESTER

Math 101 Found. of Math	3
EdPsy 302 Educ. Psych.	3
Ed 302 Hist. Philos. Am. Ed.	3
FL Elective	3
Free Elective	3
	15

SIXTH SEMESTER

Hum. or Nat. Sci. Elective	3
Soc. Sci. Elective	3
L Res 301 A-V Education	2
FL Elective	3
Free Elective(s)	3- 6
	14-17

SEVENTH SEMESTER

Soc. Sci. Elective	3
Ed 451 Tch. FL Sec. Sch.†	3
EdPsy 305 Eval. Methods	2
FL Elective	3
Hist 104 Hist. U.S. & Pa. II	3
Free Elective	3
	17

EIGHTH SEMESTER

Ed 421 St. Teaching	12
Ed 422 Prof. Pract.	2
	14

* Applicable to entrants of Summer 1967 (including ABC students) and thereafter. Students entering with 2 or 3 high school credits should start with 251 and 053. Veterans with two years of active service will be exempted from the ROTC and Health and Phys. Ed. requirement.

** HPe 110 and HPe 111 (½ credit each) applies to male freshmen of September, 1968 and thereafter.

† Prerequisite: Successful completion of 351-352 and 055-056 in the student's major language.

DEPARTMENT OF FOREIGN LANGUAGES

School of Education

Required Courses

FL 251-252	Language III-IV	3 cr. each
FL 053-054	Oral Practice III-IV	2 cr. each
FL 351-352	Advanced Language I-II	3 cr. each
FL 055-056	Advanced Oral Practice I-II	1 cr. each
FL 361-362	Development of Culture and Literature I-II	3 cr. each
Required FL Electives		9 credits
Ed 451	The Teaching of FL in the Sec. Sch.	3 credits
		36

GEOGRAPHY EDUCATION

THOMAS G. GAULT, Chairman

The function and purpose of geography is to prepare the future citizen to make rational judgements in his private and public life as it relates to the use of natural and cultural resources. Geography also acts as a meaningful integrator of the many subject matter areas taken by the student.

Though geography is listed as social science in the curricula, it is of broader scope. Geography includes physical geography (earth science), cultural geography, economic geography, urban and regional planning, or combines these for a broad understanding of man in his total environment.

Vocational opportunities in geography are expanding rapidly. Students will find a wide variety of well-paid positions in government service, marketing, urban and regional planning, army and naval map services, editorial positions, and business.

There are several options for dual certification with a major in the geography department in School of Education. Geography majors are more likely to certify in earth science or social science in addition to their major.

A major in geography consists of 36 semester hours in geography course work as listed in following pages. The options are exercised through judicious use of electives.*

FIRST SEMESTER		SECOND SEMESTER	
English I	4	English II	4
Gen. Ed. Nat. Science Elective	4	Gen. Ed. Nat. Sci. Elective	4
Physical Geography	3	Cultural Geography	3
Military Sci. or Health	1½- 2	Military Sci. or Physical Ed. I	1½- 1
Social Science Elective	3	General Psychology	3
	15½-16		15½-15

THIRD SEMESTER		FOURTH SEMESTER	
Literature I or II	2	Intro. to Art, or Music, or Theater	3
Gen. Ed. Humanity Elective	3	Gen. Ed. Humanity Elective	3
Math 152 or 101	5 or 3	Gen. Ed. Nat. Sci. Elective	3
History of U.S. and Pa. II	3	Gen. Ed. Social Sci. Elective	3
Meteorology or Climatology	4 or 3	Geology or Physiography	3 or 4
		Physical Ed. II (women)	1
	17 or 15		16 or 17

FIFTH SEMESTER		SIXTH SEMESTER	
Educational Psy.	3	Hist. & Phil. of Am. Ed.	3
Evaluation Methods	2	Audio-Visual Ed.	2
Geography Anglo-America	3	Geography Thought	3
Regional Geog. Elective	3	Regional Geography Elective	3
Economic Geography	3	Geography Elective	3
	14		14

SEVENTH SEMESTER		EIGHTH SEMESTER	
Teaching of Geography	3	Student Teaching	12
Elective	6	Prof. Practicum & Law	2
Free Electives	7		14
	16	Graduation Total	124

* The Geography major may obtain a combination Social Science certificate by careful selection of general education electives and free electives; or he may be certified in Geo-Science by proper election of courses in general education and within geography and free electives.

MATHEMATICS

MELVIN R. WOODARD, Chairman

The program in mathematics prepares the student for teaching mathematics in the junior or senior high school. Many of our graduates, however, continue their formal education in mathematics at the graduate level.

FIRST SEMESTER

	Sem. Hrs.
Eng 101 English I	4
Math 152 Algebra and Trig.	5
Phys 111 Physics I	4
HPe 101 Health or	2
MS 101 Military Science I	1½
Math 155 Computer Programming	1
	15½-16

SECOND SEMESTER

	Sem. Hrs.
Eng 102 English II	4
Math 157 Anal. Geom. & Calc. I	4
Phys 112 Physics II	4
HPe 102 Physical Ed. I or	1
MS 102 Military Science I	1½
Intro. to Art or Music or Theater	3
	16-16½

THIRD SEMESTER

Math 257 Anal. Geom. & Calc. II	4
For. Lang. or Humanities Gen. Ed. Elective	3
SS Gen. Ed. Elective	3
HPe 203 Physical Ed. II (women) or	1
HPe 110 Physical Ed. I (men)	½
Math 375 Intro. to Modern Math	3
Eng 201 Literature I	2
	15½-16

FOURTH SEMESTER

Math 357 Anal. Geom. & Calc. III	4
For. Lang. or Humanities Gen. Ed. Elective	3
Math 355 Foundations of Geom.	3
SS Gen. Ed. Elective	3
Humanities or Nat. Sci. Elec.	3
HPe 111 Physical Ed. II (men)	½
	16-16½

FIFTH SEMESTER

Hist 104 History of U.S. and Pa. II	3
Psy 201 Gen. Psych.	3
Math Electives	3
SS Gen. Ed. Elective	3
Elective	3
	15

SIXTH SEMESTER

LRes 301 Audio-Visual Ed.	2
EdPsy 302 Ed. Psych.	3
Ed 203 Hist. and Phil. of Ed.	3
Math 371 Linear Algebra I or	3
Math 376 Abstract Algebra	3
Eng 301 Literature II	2
Elective	3
	16

SEVENTH SEMESTER

Ed 305 Evaluation Methods	2
Ed 451 Tchg. of Math in Sec. School	3
Math 452 Seminar	1- 4
Math Elective	3
Elective	6
	15-18

EIGHTH SEMESTER

Ed 421 Student Teaching	12
Ed 422 Professional Practicum & School Law	2
	14

PUBLIC SCHOOL NURSING

GEORGE A. W. STOUFFER, Director

The Board of Presidents of the State Colleges approved on January 19, 1951, a curriculum for public school nurses leading to the degree of bachelor of science in education. The requirements shown below must be met.

1. The satisfactory completion of a three-year curriculum in an approved school of nursing and registration by the State Board of Examiners for the Registration of Nurses of Pennsylvania.
2. The satisfactory completion of sixty (60) semester hours of additional preparation distributed as follows:

A. Courses Related to Public School Nursing

	Semester Hours	
PSN 301 Public School Nursing	2	
PSN 302 Public School Organization	2	
PSN 401 Public Health Nursing	6	
PSN 402 Nutrition and Community Health	2	
PSN 403 Family Case Work	3	
TOTAL		15

B. General and Professional Education

Hist 104 History of the United States and Pa. II	3	
Eng 102 English II	4	
Hist 101 or 102 History of Civilization I or II	3	
Eng 201 Literature I	2	
Eng 301 Literature II	2	
PolS 111 American Citizenship	3	
Soc 151 Principles of Sociology	3	
Ed 302 Hist. and Phil. of Am. Ed.	3	
EdPsy 302 Educational Psychology	3	
Psy 352 Mental Hygiene	3	
SpH 354 Audiometry for PSN	3	
LRes 301 Audio-Visual Education	2	
Electives	11	
TOTAL		45
GRAND TOTAL		60

In the case of nurses with less than three years preparation for registration, such persons will pursue additional courses to meet the requirements for the degree.

PHYSICS DEPARTMENT

RICHARD E. BERRY, Chairman

The curriculum described here will prepare the graduate for physics certification in public school teaching. Transfers into this program from other physics programs can be accepted prior to the junior year. Students planning to go into college or university teaching should consider obtaining a B.A. or B.S. degree. These curricula are described in the Arts and Sciences section of this catalog.

REQUIREMENTS FOR PHYSICS MAJORS

The major in Physics consists of 30 semester hours credit. In addition supporting courses in Chemistry and Mathematics are required.

Major in Physics

FIRST SEMESTER

	Cr.
Eng 101 English I	4
HPe 101 Health (women)	2
HPe 110 Physical Ed. (men)	½
MS 101 Military Sci. I (men)	1½
Math 152 Algebra & Trig.	5
Math 155 Computer Programming	1
Phys 111 Physics I (Lecture)†	3
Phys 121 Laboratory Physics I†	1
	16

SECOND SEMESTER

	Cr.
Eng 102 English II	4
HPe 102 Physical Ed. (women)	1
HPe 111 Physical Ed. (men)	½
MS 102 Military Sci. I (men)	1½
Math 157 Anal. Geom. & Cal. I	4
Phys 112 Physics II (Lecture)†	3
Phys 122 Laboratory Physics II†	1
Intro. to Art, Music or Theatre	3
	16-17

THIRD SEMESTER

Math 257 Anal. Geom. & Calc. II	4
Phys 231 Electronics	4
Foreign Language or Humanities Gen. Ed. Elective	3
Psy 201 General Psychology	3
Social Science Elective I	3
	17

FOURTH SEMESTER

Eng 201 Literature I	2
Math 357 Calculus III	4
Phys 222 Mechanics I	3
Phys 242 Optics	4
Foreign Language or Humanities Gen. Ed. Elective	3
HPe 203 Physical Ed. (women)	1
	16-17

FIFTH SEMESTER

Phys 331 Atomic & Nuclear	4
EdPsy 305 Evaluation Methods	2
EdPsy 302 Ed. Psychology	3
Chem 111 General Chem. I	4
Elective	3
	16

SIXTH SEMESTER

Ed 451 Teaching of Science	3
Ed 302 Hist. & Phil. of Am. Ed.	3
LRes 301 Audio Visual Ed.	2
Chem 112 General Chem. II	4
Hist 104 Hist. of U.S. & Pa. II	3
Phys 342 Heat & Thermo.	4
	16

SEVENTH SEMESTER

Hist 104 Hist. of U.S. & Pa. II	3
Humanities Elective	3
Phys 421 Selected Experiments	3
Social Science Elective 2	3
Social Science Elective 3	3
	15

EIGHTH SEMESTER

Ed 421 Student Teaching	12
Ed 422 Professional Practicum and School Law	2
	14

† The completion of the Physics 111-112 and the Physics 121-122 sequences will satisfy the requirements of eight hours of a laboratory science in the General Education Program.

The Physics-Mathematics major consists of a minimum of 21 credits of Physics and 25 credits of Mathematics.

FIRST SEMESTER

	Cr.
Eng 101 English I	4
HPe 101 Health (women)	2
HPe 110 Physical Ed. (men)	½
MS 101 Military Sci. I (men)	1½
Math 152 Algebra & Trig.*	5
Math 155 Computer Programming	1
Phys 111 Physics I (Lecture)†	3
Phys 121 Laboratory Physics I†	1
	16

SECOND SEMESTER

	Cr.
Eng 102 English II	4
HPe 102 Physical Ed. (women)	1
HPe 111 Physical Ed. (men)	½
MS 102 Military Sci. I (men)	1½
Math 157 Anal. Geom. & Cal. I	4
Phys 112 Physics II (Lecture)†	3
Phys 122 Laboratory Physics II†	1
Intro. to Art, Music or Theatre	3
	16-17

THIRD SEMESTER

English Literature I or II	2
Math 257 Anal. Geom. & Calc. II	4
Math 375 Modern Mathematics	3
Foreign Language III or Gen. Ed. Hum. Elective	3
S. S. Elective 1	1
HPe 203 Physical Ed. (women)	1
	15-16

FOURTH SEMESTER

Math 357 Anal. Geom. & Calc. III	4
Phys 222 Mechanics I	3
Foreign Language IV or Gen. Ed. Hum. Elective	3
S. S. Elective 2	3
S. S. Elective 3	3
	16

FIFTH SEMESTER

His 104 History of U.S. & Pa. II	3
Math 361 Differential Equations	3
Phys 331 Atomic and Nuclear Physics	4
Psy 201 General Psychology	3
Elective	3
	16

SIXTH SEMESTER

Ed 451 Teaching of Science	3
LRes 301 Audio-Visual Education	2
Math 355 Geometry I	3
Phys Physics Elective	3- 4
Psy 302 Educational Psychology	3
Ed 305 Evaluative Methods	2
	16-17

SEVENTH SEMESTER

Math 371 Linear Algebra	3
Ed 302 History and Philosophy of Ed.	3
Phys 421 Selected Experiments I	3
Electives	6
	15

EIGHTH SEMESTER

Ed 421 Student Teaching	12
Ed 422 Professional Practicum and School Law	2
	14

* Algebra and Trigonometry will be taken by those students who have not shown the necessary pre-calculus proficiency. These credits are not considered as part of the major.

† The completion of the Physics 111-112 and the Physics 121-122 sequences will satisfy the requirement of eight hours of a laboratory science in the General Education Program.

SOCIAL SCIENCE

RAYMOND L. LEE, Coordinator

Forty-two semester hours are required for a major in The Social Sciences, including general education courses in The Division. A minimum of six semester hours must be programmed in each of five areas: Economics, Geography, History, Political Science, and Sociology-Anthropology. A concentration of 15 semester hours must be programmed in one area.

FIRST SEMESTER

	Cr.
Eng 101 English I	4
HPe 101 Health or	2
MS 101 Military Science I	1½
Laboratory Natural Science	4
General Ed. Hum. Electlve	3
General Ed. Soc. Sci. Elective	3
	15½-16

SECOND SEMESTER

	Cr.
Eng 102 English II	4
HPe 102 Physical Ed. I or	1
MS 102 Military Science I	1½
Laboratory Natural Science	4
General Ed. Hum. Elective	3
General Ed. Soc. Sci. Elective	3
	15-15½

THIRD SEMESTER

Math 101 Foundations of Math (or alternative)	3
HPe 103 Physical Ed. II (women)	1
Literature I or II	2
Gen. Ed. Soc. Sci. Elective	6
Gen. Ed. Natural Sci. or Hum. Elective	3
HPe 110 Physical Ed. I (men)	½
	14½-15

FOURTH SEMESTER

EdPsy 302 Education Psychology	3
Gen. Ed. Soc. Sci. Elective	3
Intro. to Art, Music, Theater	3
Courses in Major Field	6
HPe 111 Physical Ed. II (men)	½
	15-15½

FIFTH SEMESTER

Ed 302 Hist.-Phil. Education	3
Courses in Major Field	15
	18

SIXTH SEMESTER

LRes 301 Audio-Visual Education	2
Ed 354 Teaching Social Studies	3
Courses in Major Field or free electives	11
	16

SEVENTH SEMESTER

EdPsy 305 Evaluation Methods	2
Courses in Major Field or free electives	13
	15

EIGHTH SEMESTER

Student Teaching and Practicum	14
	14

TOTAL 124

HISTORY DEPARTMENT

CLYDE C. GELBACH, Chairman

Thirty semester hours are required for a major in history. Beyond the General Education requirements at least one course must be programmed in each of the following subdivisions: European History, United States History, Regional History. (For course descriptions see page .)

European History

Hist 101 History of Civilization I
Hist 102 History of Civilization II
Hist 360 Special Studies in History
Hist 371 Renaissance and Reformation
Hist 372 History of Europe: 1600-1815
Hist 373 History of Europe: 1815-1914
Hist 374 History of the Twentieth Century World
Hist 380 Medieval Europe I, 400-900
Hist 381 Medieval Europe II, 900-1350

United States History:

Hist 103 History of the United States and Pennsylvania I
Hist 104 History of the United States and Pennsylvania II
Hist 345 Colonial America
Hist 360 Special Studies in America
Hist 361 Contemporary United States History
Hist 363 Diplomatic History of the United States
Hist 364 Great Personalities in History
Hist 365 History of Pennsylvania
Hist 390 Social and Intellectual History of the United States to 1875
Hist 391 Social and Intellectual History of the United States Since 1875

Regional History:

Hist 350 History of Latin America: Colonial Period, 1450-1820
Hist 351 History of Latin America: National Period, 1820 to Present
Hist 352 History of England to 1688
Hist 353 History of England, 1688 to Present
Hist 354 History of Russia to 1917
Hist 355 History of Soviet Russia
Hist 356 The Old Regime through the Empire: France 1589-1815
Hist 357 Modern France
Hist 358 History of Germany to 1848
Hist 359 History of Germany: 1849-1949
Hist 375 History of the Far East
Hist 376 History of the Middle East

FIRST SEMESTER	Cr.	SECOND SEMESTER	Cr.
Eng 101 English I	4	Eng 102 English II	4
HPe 101 Health or	2	HPe 102 Physical Ed. I or	1
MS 101 Military Science I	1½	MS 102 Military Science I	1½
Humanities General Education Elective (Hist. Civ. I)	3	Laboratory Natural Science	4
Laboratory Natural Science	4	Gen. Ed. Soc. Sci. Electives	6
Gen. Ed. Soc. Sci. Elective	3		
	15½-16		15-16½

THIRD SEMESTER

Eng 201 Literature I or Eng 301 Literature II	2
Art 101 Introduction to Art or Mus 101 Introduction to Music or Introduction to Theater	3
Hist 104 Hist. U.S. and Pa. II	3
Math 101 Foundations of Math	3
HPe 103 Physical Ed. II (women)	1
Humanities General Education Elective	3
HPe 110 Physical Ed. I (men)	½
	15-15½

FOURTH SEMESTER

Psy 201 General Psychology	3
General Education Humanities Elective or Natural Science Elective	3
General Education Humanities Elective	3
Courses in major-minor field	6
HPe 111 Physical Ed. (men)	½
	15-15½

FIFTH, SIXTH, SEVENTH SEMESTERS

Courses in major-minor fields or free electives .... 15-18 per semester

EIGHTH SEMESTER

Ed 421 Student Teaching	12
Ed 422 Professional Practicum and School Law	2
	14

THE SCHOOL OF FINE ARTS

HAROLD S. ORENDORFF, Dean

For countless centuries, man has endeavored to express himself in the creation of the various fine art forms. The departments in the School of Fine Arts are dedicated to the principle of developing the student's creativity in these forms of expression to the highest possible level.

The School of Fine Arts also has a responsibility to the community in the larger sense, that of providing the leadership and stimuli to encourage the growth, development and constant improvement of all the arts in the area.

At the present time, the School of Fine Arts consists of four departments in two administrative units; Art and Art Education, Music and Music Education.

DEPARTMENT OF ART AND ART EDUCATION

LAWRENCE F. McVITTY, Chairman of Department

The general requirements for admission to the University are explained under that heading in this catalog. The applicant for Art or Art Education should submit a portfolio containing work done on his own initiative as well as work completed in school to the Art Department. If, for some reason, a portfolio cannot be submitted the student should arrange an interview with the Art Department.

The art program at the University includes general and professional studies as well as development of the student's creative and expressive abilities. Some students will elect to develop their skills for art teaching. Some will choose to gain a knowledge of art for use in art related fields. Many students will use the knowledge of art gained here as a background to further study. To meet these various needs, the program requires the student to complete a core sequence of two academic years. Basic experiences are given in the core, equipping the student for a more demanding experience in upper level courses.

Upon entering his Junior year, the student elects to follow a specific concentration. The degrees offered are Bachelor of Science in Art Education, and Bachelor of Arts in: Art History, Painting-Drawing, or Design. Each area follows a planned sequence. The student along with his advisor selects the courses for the student's area of concentration.

The faculty is composed of people who are interested in student welfare. They are dedicated teachers, active professionally in the fields they teach.

Students graduating in Art Education will be qualified to enter the profession of art teaching in the elementary and the secondary schools. This program is a prerequisite to advanced study, which is necessary before the art teacher's certification can be made permanent.

Those students completing the degree Bachelor of Arts in an area of art concentration will be eligible to attend schools for advanced study. The student may find a career in areas where art knowledge or performance are required.

The student is required to maintain a 2.0 average (C) or higher in his major field. Students intending to continue into graduate school are reminded that a 2.5 average is preferred.

The art student must also demonstrate an interest in the welfare of the department by constructive participation in its professional and social affairs.

Credit hours within various divisions:

	Art Education	Art History	Painting-Drawing-Sculpture	Design
General Education	52	52	52	52
Professional Education	28			
Core	26	26	26	26
Major	20	33	30	30
Academic Electives		6	6	6
Art Electives	6	6	9	9
	132	123	123	123

Semester hour credit is counted on the basis of two clock hours of studio for one semester hour of credit.

Art Education Majors are prepared for certification for teaching in both elementary and secondary art.

Any student in the university may elect to take any course in art providing he has received written permission from the particular instructor concerned.

ART MINOR

A student electing to take an Art Minor (15 to 21 semester hours) must complete certain prerequisite courses.

Art History: Art 115, Art 116, Art 411, Art 413. 16 to 18 semester hours of undergraduate work in Art History is required for Master's work in Art History.

Art: Art 111; 112; 113 or 114; 115 or 116 or 411; 211; 213; 215 plus art electives in lower or upper division.

ART AND ART EDUCATION CURRICULUM SEQUENCE

Course sequences are listed herewith. Any variations should be cleared with the student's advisor. A more complete analysis of this is found in the check sheet available in the department office.

CORE SEQUENCE

FIRST SEMESTER	Sem. Hrs.
Art 111 Drawing I	2
Art 113 Design I	2
Art 115 Art History I	3
Biol 103 General Biology I or Sci 105 Physical Science I	4
Eng 101 English I	4
HPe 101 Health	2
MS 101 Military Science I	1½
	16½-17

SECOND SEMESTER	Sem. Hrs.
Art 112 Drawing II	2
Art 114 Design II	2
Art 116 Art History II	3
Biol 104 General Biology II or Sci 106 Physical Science II	4
Eng 102 English II	4
HPe 102 Physical Ed. I	1
MS 102 Military Science I	1½
	16-16½

THIRD SEMESTER	
Art 211 Painting I	2
Art 213 Crafts I	2
Art 215 Sculpture I	2
Art 217 Printmaking I	2
Mus 101 Introduction to Music	3
Psy 201 General Psychology	3
HPe 103 Physical Ed. II (women)	1
HPe 110 Physical Ed. I (men)	½
	14½-15

FOURTH SEMESTER	
Art 212 Painting II	2
Art 214 Ceramics I	2
Art 216 Metalry I	2
Art 218 Graphic Design I	2
Social Science—elective	3
General Studies—elective	3
HPe 111 Physical Ed. II (men)	½
	16-16½

ART EDUCATION CONCENTRATION

FIFTH SEMESTER

		Sem. Hrs.
Art 311	Painting III	2
Art 313	Sculpture II	2
Art 315	Printmaking II	2
Art 317	Arts & Crafts El. Ed.	2
Art 319	Teach Sem. in El. Art Ed.	1
Math 101	Foundations of Math	3
EdPsy 302	Educational Psychology	3
Hist 104	History U.S. & Pa. II	3
		18

SIXTH SEMESTER

		Sem. Hrs.
Art 312	Ceramics II	2
Art 314	Costume and Theatre Arts	2
Art 316	Metalry II—enamel-raising	2
Art 318	Arts & Crafts Sec. Ed.	2
Art 320	Teach Sem. in Sec. Art Ed.	1
	Social Science—elective	3
LRes 301	Audio-Visual Education	2
Ed 302	History & Phil. of Am. Ed.	3
		17

SEVENTH SEMESTER

Art 411	Art History III	2
Art 413	Seminar in Art	2
Art 415	Crafts II	2
Art	Art electives	6
Eng	Literature I or II	3
	Social Science—elective	3
		17

EIGHTH SEMESTER

Ed 421	Student Teaching	12
Ed 422	Prof. Practicum, including School Law	2
		14

ART HISTORY CONCENTRATION

FIFTH SEMESTER

		Sem. Hrs.
Art 321	Drawing III	2
Art 411	Art History III	2
Art	Art History	3
Art	Art Studio	2
Fl	Foreign Language	3
Math 101	Foundations of Math	3
		15

SIXTH SEMESTER

		Sem. Hrs.
Art	Art Studio	2
Art	Art History	3
Art 410	Primitive and Pre-Greek Art	3
Fl	Foreign Language	3
	Social Science—elective	3
		14

SEVENTH SEMESTER

Art	Art Studio	2
Art	Art History	6
	Academic—elective	3
	Social Science—elective	3
		14

EIGHTH SEMESTER

Art 413	Seminar in Art	2
Art	Art Studio	6
Art	Art History	6
	Social Science—elective	3
	Academic—elective	3
		16

DRAWING-PAINTING-SCULPTURE CONCENTRATION

FIFTH SEMESTER

		Sem. Hrs.
Art 321	Drawing III	2
Art 411	Art History III	2
Art	Art Studio	6
Fl	Foreign Language	3
Math 101	Foundations of Math	3
		16

SIXTH SEMESTER

		Sem. Hrs.
Art	Art Studio	2
Art	Art History	3
Fl	Foreign Language	3
	Academic elective	3
	Social Science elective	3
		14

SEVENTH SEMESTER

Art	Art Studio	10
	Academic elective	3
	Social Science elective	3
		16

EIGHTH SEMESTER

Art 413	Seminar in Art	2
Art	Art Studio	6
	Academic elective	3
	Social Science elective	3
		14

DESIGN CONCENTRATION

FIFTH SEMESTER

Art 321	Drawing III	2
Art 411	Art History III	2
Art	Art Studio	4
Fl	Foreign Language	3
Math 101	Foundations of Math	3
		14

SIXTH SEMESTER

Art	Art History	3
Art	Art History	4
Fl	Foreign Language	3
	Social Science elective	3
	Academic elective	3
		16

SEVENTH SEMESTER

Art	Art Studio	10
	Social Science elective	3
	Academic elective	3
		16

EIGHTH SEMESTER

Art 413	Art Seminar	2
Art	Art Studio	6
	Social Science elective	3
	Academic elective	3
		14

Electives

Art 451	Crafts III	2
Art 452	Ceramics III	2
Art 453	Sculpture III	2
Art 454	Painting IV	2
Art 455	Graphic Design II	2
Art 457	Printmaking III	2
Art 458	Architecture and Home Plan.	2
Art 459	Advanced Fabrics	2
Art 460	Advanced Metalry	2
Art 330	Arts and Crafts for Mentally Retarded	3

Electives

MS 101	Military Science I	1½
MS 102	Military Science I	1½
MS 203	Military Science II	2
MS 204	Military Science II	2
MS 305	Military Science III	2
MS 306	Military Science III	2
MS 407	Military Science IV	3
MS 408	Military Science IV	3

Students in the Department of Art and Art Education who find it necessary to complete courses under the old curriculum, should program for new curriculum courses under the new curriculum numbers and consult with the department chairman or the instructor about change in credit. In this transitional period students should adhere to the curriculum as nearly as possible as it was designated in the catalog for the year in which they entered the university.

In arranging programs students and advisors in the Department of Art and Art Education should consult that portion of the catalog designated as General Education Program. (Humanities 22 cr. - Natural Science 11 cr. - Social Science 15 cr. - ROTC and Phys. Ed. 4 cr.)

PROFESSIONAL EDUCATION FOR STUDENTS IN ART EDUCATION

	credits
Psych 202 Educational Psychology	3
Art 317 Arts and Crafts Elementary Education	2
Art 319 Teaching Seminar Elementary Art	1
Art 318 Arts and Crafts Secondary Education	2
Art 320 Teaching Seminar Secondary Art	1
Ed 301 Audio Visual Education	2
Ed 302 History and Philosophy of American Education	3
Ed 421 Student Teaching	12
Ed 422 Professional Practicum in School Law	2
	28 s.h.

Students desiring to teach Art in the State of Pennsylvania must complete the above professional requirements for graduation and certification as well as the sequences in General Education in Humanities and those courses as listed by the Department of Art and Art Education.

DEPARTMENT OF MUSIC AND MUSIC EDUCATION

HUGH JOHNSON, Chairman

Admission to either department requires a satisfactory tape recorded audition to be mailed to the chairman. Detailed instructions will be sent to the applicant on request.

The Music Division offers a flexible program leading to the Bachelor of Fine Arts in Music (usually Bachelor of Music) with a major in one of the eighteen areas of performance. The graduate of this program will be prepared for graduate study in performance or for an audition for membership in one of the minor professional organizations.

The Music Education Division program leads to the Bachelor of Science in Music Education along with certification to teach in the Public Schools of Pennsylvania.

The School of Arts and Sciences offers a program leading to a degree of Bachelor of Arts in Music with a major in Performance, Theory and Composition and, Music History and Literature.

REQUIREMENTS FOR THE BACHELOR OF FINE ARTS* IN MUSIC PERFORMANCE DEGREE

(BACHELOR OF MUSIC)

GENERAL EDUCATION

Humanities		16
English I and II	8	
Literature I or II	2	
Foreign Language (Completion of Intermediate Sequence)	6	
Natural Sciences		11
Laboratory Science	8	
Foundations of Math I	3	
Social Sciences		15

Each student will elect five courses from the following:

American Citizenship	Hist. of Civ. II
Intro. to Anthropology	Hist. of U.S. & Pa. II
Principles of Economics	General Psychology
World Geography	Prin. of Sociology

MUSIC

Lower Division			24
Theory I, II, III, & IV	12		
Sight Singing I & II	4		
Ear Training I & II	2		
Keyboard Harmony I & II	2		
Music Literature I & II	4		
Upper Division			14
Fourteen hours to be selected from the following,			
Form and Analysis I	2	Hist. of Music I	3
Form and Analysis II	2	Hist. of Music II	3
Counterpoint I	2	Mus. of the An. World	3
Counterpoint II	2	Mus. of the Middle Ages	3
Orchestration I	2	Renaissance Music	3
Orchestration II	2	The Baroque Era	3
Fund. of Conducting	2	18th Century Music	3
Choral Conducting	2	The Early Romantic Per.	3
Inst. Conducting	2	The Late Romantic Per.	3
Lit. of the Major I	2	Contemporary Music	3
Lit. of the Major II	2	American Music	3
Applied Music			40
Major Instrument or Voice	32		
Minor Instrument or Voice	8		

Piano proficiency required.
Junior and Senior Recitals required in the major.

SEQUENCE IN MUSIC PERFORMANCE

FIRST SEMESTER

	Hours Sem.
Eng 101 English I	4
MS 101 Military Science I	1½
HPe 102 Physical Education I	1
Mus 111 Sight Singing I	2
Mus 113 Ear Training I	1
Mus 115 Theory I	3
Applied Major	4
Applied Minor	1
	16-16½

SECOND SEMESTER

	Hours Sem.
Eng 102 English II	4
MS 102 Military Science I	1½
HPe 103 Physical Education II	1
Mus 112 Sight Singing II	2
Mus 114 Ear Training II	1
Mus 116 Theory II	3
Applied Major	4
Applied Minor	1
	16-16½

THIRD SEMESTER

Foreign Language	3
Eng 201 or 301 Literature I or II	2
Mus 215 Theory III	3
Mus 217 Keyboard Harmony I	1
Mus 220 Music Literature I	2
Applied Major	4
Applied Minor	1
HPe 110 Physical Ed. I (men)	½
	16-16½

FOURTH SEMESTER

Foreign Language	3
Math 101 Foundation of Mathematics	3
Mus 216 Theory IV	3
Mus 218 Keyboard Harmony II	1
Mus 221 Music Literature II	2
Applied Major	4
Applied Minor	1
HPe 111 Physical Ed. II (men)	½
	17-17½

FIFTH SEMESTER

Laboratory Science I	4
Social Science Elective	3
Applied Major	4
Applied Minor	1
Upper Division Selection	4
	16

SIXTH SEMESTER

Laboratory Science II	4
Social Science Elective	3
Applied Major	4
Applied Minor	1
Upper Division Selection	4
	16

SEVENTH SEMESTER

Social Science Elective	3
HPe 101 Health (women)	2
Applied Major	4
Applied Minor	1
Upper Division Selection	4
	12-14

EIGHTH SEMESTER

Social Science Elective	6
Applied Major	4
Applied Minor	1
Upper Division Selection	2
	13

* Requirements for B.A. in Music found under the School of Arts and Sciences.

REQUIREMENTS FOR THE BACHELOR OF SCIENCE IN MUSIC EDUCATION DEGREE

GENERAL EDUCATION

Humanities			27-30
English I and II		8	
Literature I or II		2	
Intro. to Art, Music, or Theater		3	
Basic Music		14	
Theory I	3		
Ear Training I	1		
Sight Singing I	2		
Music Literature I	2		
Music History I & II	6		
General elective		(3)	
Aesthetics	Mod. Am. Fiction		
Art Hist. I or II	Philosophy		
Ethics	Religious Lit.		
Hist. Civ. I	Religious Thought		
Logic			
Natural Science			11-14
Laboratory Science		8	
Foundations of Math I		3	
General elective		(3)	
Astronomy			
Computer Math.			
Found. of Math. II			
Geology			
Statistics			
Social Science			15
Hist. of U.S. & Pa. II		3	
General Psychology		3	
Electives		9	
American Citizenship			
Intro. to Anthropology			
Principles of Economics			
World Geography			
History of Civilization II			
Principles of Sociology			
R.O.T.C. and Physical Education			4
Rhythmic Activities		2	
Health		2	
			60

MUSIC EDUCATION

Required of all Music Education students:			23 or 24
Theory II, III, and IV		9	
Ear Training II		1	
Sight Singing II		2	
Music Literature II		2	
Fundamentals of Conducting		2	
Woodwinds Seminar		1	
Brass Seminar		1	
Strings Seminar		1	
Class Percussion I		1	
Voice Seminar I and II		2	
Class or Private Piano		1 or 2	

Twenty-five semester hours to be selected from the following with the approval of the advisor: 25

Choral Conducting	2	Private Viola	2
Instrumental Conducting	2	Private Cello	2
French Diction	2	Private Bass Viol	2
German Diction	2	Private Flute	2
Counterpoint I	2	Private Oboe	2
Orchestration I	2	Private Clarinet	2
Class Brass	1	Private Bassoon	2
Class Woodwinds	1	Private Saxophone	2
Class Strings	1	Private Trumpet	2
Class Percussion II	1	Private French Horn	2
Private Piano	2	Private Trombone	2
Private Voice	2	Private Baritone Horn	2
Private Organ	2	Private Tuba	2
Private Harpsichord	2	Private Percussion	2
Private Violin	2		

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PROFESSIONAL EDUCATION

Educational Psychology	3
Audio-Visual Education	2
History & Philosophy of Am. Ed.	3
Elementary Methods	2
Secondary Methods	2
Instrumental Methods	2
Professional Practicum	2
Student Teaching	12
	28

Each student must declare a major performing medium and one or more minor performing media. One of the minors for a voice major must be piano and one of the minors for a piano major must be voice.

Jury clearance on all majors and minors is required.

All students must have piano jury clearance at their level of declaration.

All students must participate in one or more performing organizations. It is recommended that participation be in both vocal and instrumental organizations.

Student teaching will include all areas of Music Education at all levels of the public schools.

SEQUENCE IN MUSIC EDUCATION

FIRST SEMESTER

	Hours Sem.
Eng 101 English I	4
HPe Health	2
MS 101 Military Science I	1½
Mus 111 Sight Singing I	2
Mus 113 Ear Training I	1
Mus 115 Theory I	3
Mus 155 Class Strings I (1st or 2nd)	1
Mus 151 Class Voice I	1
Private or Class Piano	1
	14½-15

SECOND SEMESTER

	Hours Sem.
Eng 102 English II	4
101 Intro. to Art, Music or Theater	3
MS 102 Military Science I	1½
Mus 112 Sight Singing II	2
Mus 114 Ear Training II	1
Mus 116 Theory II	3
Mus 152 Class Voice II	1
Private or Class Piano	1
To be selected	1 or 2
	15½-16

THIRD SEMESTER

Laboratory Science	4
Mus 215 Theory III	3
Mus 220 Music Literature I	2
Mus 311 Fundamentals of Conducting	2
Mus 204 Rhythmic Activities I	1
Mus 161 Class Woodwinds I or Mus 157 Class Percussion I	1
To be selected	4
	17

FOURTH SEMESTER

Laboratory Science	4
Psy 201 General Psychology	3
Mus 216 Theory IV	3
Mus 221 Music Literature II	2
Mus 205 Rhythmic Activities II	1
Mus 157 Class Percussion I or Mus 161 Class Woodwinds I	1
To be selected	3
	17

FIFTH SEMESTER

Math 101 Foundations of Mathematics	3
Eng 201 or 301 Literature I or II	2
Social Science Elective	3
Mus 301 Music History I	3
Mus 331 Elementary Methods	2
Mus 159 Class Brass I	1
To be selected	3
	17

SIXTH SEMESTER

Humanities or Science Elective	3
Psy 302 Educational Psychology	3
Social Science Elective	3
Mus 302 Music History II	3
Mus 333 Secondary Methods	2
To be selected	3
	17

SEVENTH SEMESTER

Ed 302 History and Phil. of Am. Ed.	3
101 Intro. to Art or Theater (men)	(3)
Social Science Elective	3
Hist 104 History of U.S. and Ua. II	3
LRes 301 Audio-Visual Education	2
Mus 334 Instrumental Methods	2
To be selected	1-3
	16

EIGHTH SEMESTER

Ed 421 Student Teaching	12
Ed 422 Professional Practicum	2
	14

THE SCHOOL OF HOME ECONOMICS

ELLA C. BENDIX, Dean

The School of Home Economics offers two major curricula leading to the Bachelor of Science degree in Home Economics. The Home Economics Teacher Education Curriculum meets certification required for teaching home economics in Pennsylvania. The Institutional Food Service Curriculum offers two programs; one leading to certification for Pennsylvania School Food Service and the other preparing for the American Dietetic Association internship requirements and/or management positions in public and private institutional food services.

General Education: All students in the School of Home Economics are required to complete the general education program and meet teacher certification requirements. Approximately two thirds of this work is taken during the first two years.

Home Economics Professional Requirements: A series of home economics courses are required of all students enrolled in the School of Home Economics. The required courses are:

HE 111 Meal Management
HE 113 Management and Equipment
HE 211 Advanced Foods
HE 212 Nutrition
HE 218 Child Development
HE 315 Family Finance and Consumer Education
HE 411 Family Relations

See pages 275-276-280 for course descriptions.

Home Economics Electives: Students enrolled in the School of Home Economics may choose home economics electives from either department. Some home economics courses may be elected by students not enrolled in the School of Home Economics.

Students are required to maintain a 2.0 (C) average or higher. For those intending to continue into graduate school a 2.5 average or higher is preferred.

It may be necessary for some students to attend one or more summer school sessions during their undergraduate study in order to meet requirements for certification.

The Curricula in the School of Home Economics contributes to the development of professional competencies which enable the students to enter a diversity of careers such as: equipment and utility home service representatives, extension services, homemaking, radio and television and family and community welfare work. These are in addition to the teaching and institutional food service careers.

HOME ECONOMICS EDUCATION DEPARTMENT

MARY W. ARMSTRONG, Chairman

The Home Economics Education Department offers a home economics teacher education program leading to the Bachelor of Science degree. The program designed to meet university and teacher certification requirements includes courses in general liberal education, home economics, general professional education and professional home economics education. The graduate of this program will be prepared for graduate study in home economics education.

Certification for Teaching Home Economics. Students who expect to qualify for a College Certificate for Teachers of Home Economics in Pennsylvania must complete the requirements for the home economics teaching major.

Certification for Teachers of Nursery Schools or Child Care and Development Laboratories in Secondary Schools Including Vocational Schools. The certificate for teaching home economics in the secondary field will be extended to teaching child care and development in child development laboratories in secondary schools including vocational schools upon completion of an additional twelve semester hours. Course offerings will be in areas of adolescent psychology, child development, nursery school child nutrition, nursery school education and student teaching with children between the ages of two and four years.

Home Economics Teacher Education Curriculum for Pennsylvania State Certification for Teaching

FIRST SEMESTER

	Cr.
Eng 101 English I	4
Chem 101 Chemistry	3
Art 101 Introduction to Art or	
Mus 101 Introduction to Music or	
Eng 103 Introduction to Theatre	3
HPe 102 Physical Education I	1
HE 111 Meal Management	3
HE 213 Principles of Design	2
	16

SECOND SEMESTER

	Cr.
Eng 102 English II	4
Chem 102 Chemistry	3
Social Science Elective*	3
Math 101 Foundations of Math	3
HE 112 Clothing Construction	3
	16

THIRD SEMESTER

Biol 151 Physiology	3
Humanities Elective*	3
Eng 201 Literature I or	
Eng 301 Literature II	2
HPe 101 Health	2
HE 113 Management and Equipment	3
HE 211 Advanced Foods	3
	16

FOURTH SEMESTER

Humanities Elective	3
Psy 201 General Psychology	3
Hist 104 History of U.S. & Pa. II	3
HPe 103 Physical Education II	1
HE 212 Nutrition	3
HE 214 Clothing II	3
	16

FIFTH SEMESTER

Biol 361 Microbiology	3
Social Science Elective*	3
EdPsy 302 Educational Psychology	3
HE 216 Clothing Selection	3
HE 315 Family Finance and Consumer Education	3
	15

SIXTH SEMESTER

Social Science Elective*	3
Ed 302 History & Philosophy of American Education	3
HE 218 Child Development	3
HE 314 Textiles	3
HE 217 Home Planning & Furnishing	3
	15

SEVENTH SEMESTER

HE Elective	3
LRes 301 Audio Visual Education	2
Elective in any Area	3
HE 315 Methods of Teaching Vocational Home Economics	4
HE 411 Family Relations	3
	15

EIGHTH SEMESTER

Ed 421 Student Teaching	6
Ed 422 School Law	1
HE 412 Nursery School	3
HE 414 Home Management Residence	3
HE 452 Vocational Home Economics Curriculum Construction	2
	15

*See Catalogue Page 256 for listing of elective courses in Humanities, Natural Science and Social Sciences.

Sequence of courses subject to change for administrative purposes.

INSTITUTIONAL FOOD SERVICES DEPARTMENT

ELISABETH A. SCHMIDT, Chairman

Majors in this department pursue the general education program required of all students. A concentration may be selected either for Pennsylvania School Food Service Certification; or to meet dietetic internship requirements for American Dietetic Association professional membership and/or preparation to enter commercial and industrial food management opportunities in public and private food service operations.

To meet professional requirements the program includes Administration, Equipment and Layout, Food Purchasing, Microbiology and Sanitation, Field Food Service Experience, Quantity Food Management, Food Service Accounting, Personnel Management, and an approved summer experience of at least six weeks full-time employment in a food service operation.

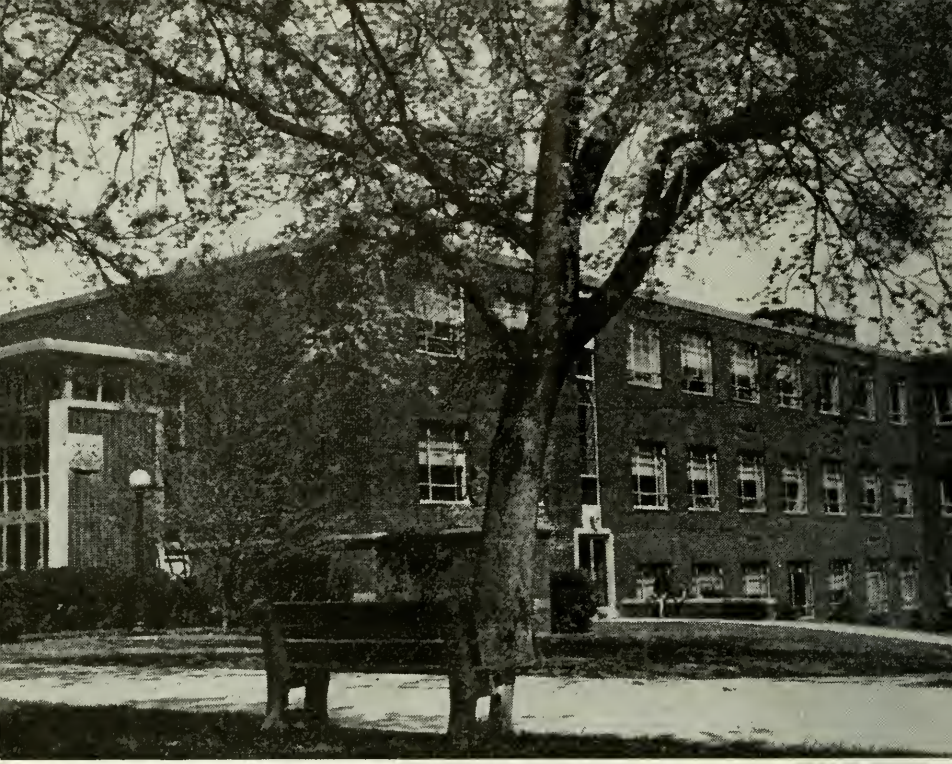
Home Economics Education majors may elect food service courses to prepare for teaching in vocational food science programs in the public schools.

VIEWS and SCENES

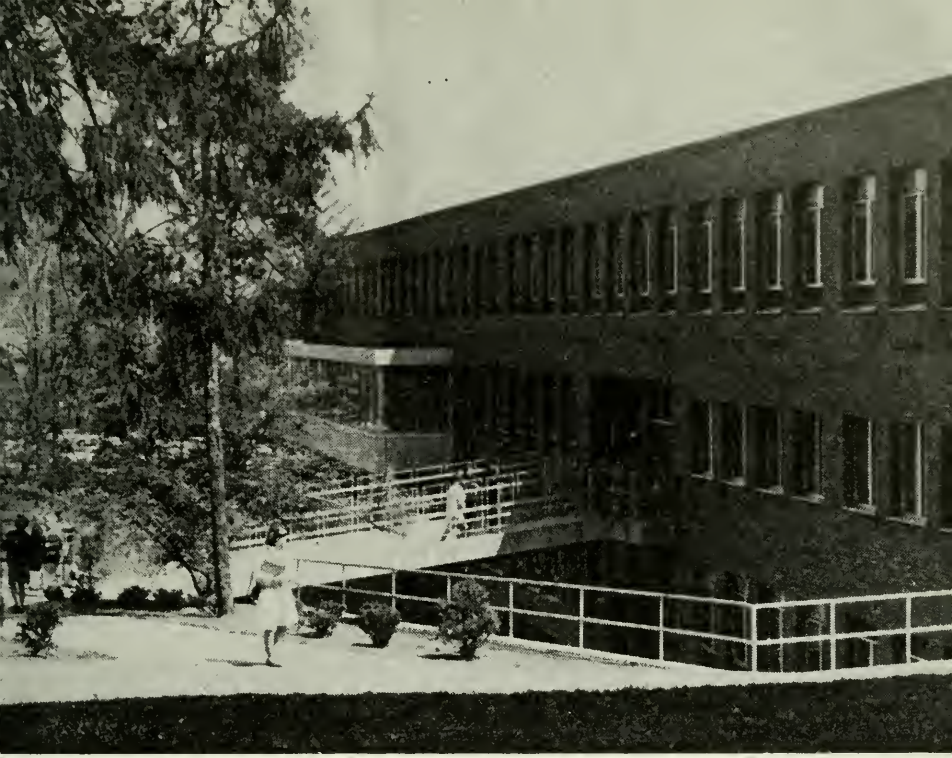
at

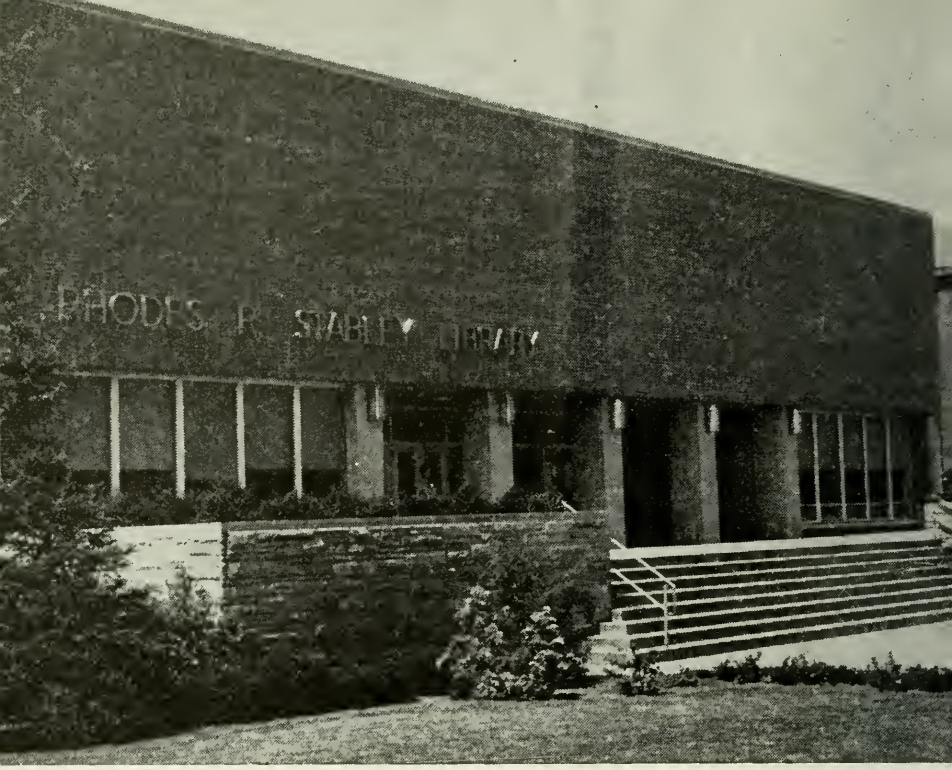
INDIANA UNIVERSITY OF PENNSYLVANIA

Indiana, Pennsylvania



CARL S. WEYANDT HALL




RHODES MEMORIAL LIBRARY

CURRICULUM FOR PENNSYLVANIA SCHOOL FOOD SERVICE CERTIFICATION

ELISABETH A. SCHMIDT, Chairman
BERNICE W. KING, ELIZABETH LAVELLE, LEOLA NORBERG, ALLEN M. WOODS

FIRST SEMESTER

	HOURS clock	sem.
Eng 101 English I	4	4
Chem 101 Inorganic Chemistry	4	3
HE 113 Management & Equip.	5	3
HE 111 Meal Management	6	3
HPe 101 Health	2	2
HPe 102 Physical Education		
	21	15

SECOND SEMESTER

	HOURS clock	sem.
Eng 102 English II	4	4
Chem 102 Organic Chemistry	4	3
BM 111 Foundations of Math	3	3
Gen Ed Introduction to Art or Theatre or Music	3	3
HE 211 Advanced Foods	6	3
HPe 101 Physical Education	2	1
	22	17

THIRD SEMESTER

Psy 201 General Psychology	3	3
Bio 151 Physiology for Home EC	4	3
HE 212 Nutrition	4	3
HPe 203 Physical Education	2	1
Gen Ed Humanities Elective	3	3
Gen Ed Social Science Elec.	3	3
	19	16

FOURTH SEMESTER

Psy 302 Educational Psychology	3	3
Chem 351 Biochemistry or Elective	4	3
HE 218 Child Development	3	3
HE 315 Fam. Finance & Cons. Econ.	3	3
HPe 204 First Aid	2	1
Gen Ed Social Science Elec.	3	3
	18	16

FIFTH SEMESTER

HE 303 Quantity Food Service	9	3
Eng 201 Literature I	2	2
Bio 361 Microbiology & Sanitation	5	3
BM 201 Personnel Management	3	3
HE 359 Quantity Food Purchasing	3	3
HE 355 Diet Therapy or Elective in any area	3	3
	25	17

SIXTH SEMESTER

HE 362 Experimental Foods	6	3
HE 411 Family Relations	3	3
Hist 104 History of U.S. & Pa.	3	3
Eng 301 Literature II	2	2
LRes 301 Audio Visual Ed.	3	2
*HE 321 In-Service Training	2	1
Gen Ed Social Science Elective	3	3
	22	17

SEVENTHS EMESTER

Ed 362 Hist & Phil of Education	3	3
HE 360 Account. for Food Service	3	3
HE 364 Methods of Teaching	3	3
HE 358 Food Service Equipment	3	3
Elective in any area	3	3
	15	15

EIGHTH SEMESTER

HE 356 Food Service Administration	3	3
HE 361 Food Service Experience	20	6
HE 402 Nutrition and Comm. Health	2	2
Ed 422 School Law	2	1
	27	12

Additional Requirements: A summer practicum is required of all students. This is met by the completion of approved full-time employment of at least six weeks in a food service operation, during one summer period. Courses in Military Science are also required of male students.

*Subject to curriculum committee approval 1968-1969.

INSTITUTIONAL FOOD SERVICE CURRICULUM FOR INSTITUTION FOOD SERVICE MANAGEMENT AND DIETETICS

This program meets the internship requirements of The American Dietetics Association.

FIRST SEMESTER	HOURS clock	sem.
Eng 101 English I	4	4
HE 113 Management and Equipment	5	3
HE 111 Meal Management	6	3
Chem 101 Chemistry (Inorganic)	4	3
HPe 101 Health	2	2
	21	15

SECOND SEMESTER	HOURS clock	sem.
Eng 102 English II	4	4
Chem 102 Chemistry (Organic)	4	3
Gen Ed Intro to Art, or Theatre or Music	3	3
HE 211 Advanced Foods	6	3
BM 111 Foundations of Math	3	3
HPe 102 Physical Ed. I	2	1
	22	17

THIRD SEMESTER		
Psy 201 General Psychology	3	3
Bio 101 Physiology	4	3
HE 212 Nutrition	4	3
HPe 203 Physical Ed. II	2	1
Humanities Elective	3	3
Social Science Elective	3	3
	19	16

FOURTH SEMESTER		
HPe 204 First Aid	2	1
Chem 351 Biochemistry	4	3
EdPsy 302 Educational Psychology	3	3
HE 215 Child Development	3	3
HE 315 Consumer Economics and Family Finance	3	3
Social Science Elective	3	3
	18	16

FIFTH SEMESTER		
Eng 201 Literature	2	2
Bio 360 Microbiology and Sanitation	5	3
BM 201 Personnel Mgmt.	3	3
HE 313 Quantity Food Service and Mgmt.	9	3
HE 359 Quantity Food Purchasing	3	3
HE 355 Diet Therapy	3	3
	25	17

SIXTH SEMESTER		
Eng 301 Literature II	2	2
Hist 104 History of U.S. & Pa.	3	3
LRes 301 Audio Visual Ed.	3	2
HE 362 Experimental Foods	6	3
HE 411 Family Relations	3	3
*HE 321 Professional Employment Practicum	1	1
Social Science Elective	3	3
	21	17

SEVENTH SEMESTER		
HE 358 Food Service Equipment	3	3
Ed 302 His. and Phil. of American Ed.	3	3
HE 360 Accounting for Food Service	3	3
HE 364 Methods of Teaching	3	3
Elective in any area	3	3
	15	15

EIGHTH SEMESTER		
HE 401 Nutrition and Community Health	2	2
Ed 422 School Law	2	1
HE 356 Food Service Administration	3	3
HE 361 Food Service Experience	20	6
	27	12

Additional Requirements: Summer practicum is required of all students. This requirement is met by the completion of approved full-time employment in a food service operation of not less than six weeks during one summer period. Courses in Military Science are also required of male students.

*Subject to Approval of Curriculum Com. 1968-69.

THE SCHOOL OF HEALTH SERVICES

JOHN CHELLMAN, Dean

The establishment of a School of Health Services provides an opportunity to educate needed personnel representing various health disciplines. The School offers professional curricula leading to appropriate baccalaureate degrees for men and women in health and physical education; medical technology; corrective, physical, and occupational therapy; and nursing. Indiana University of Pennsylvania is affiliated with approved schools and hospitals for specialized training in all programs of the allied health professions and nursing.

At the present time the School of Health Services includes five departments:

1. Allied Health Professions
2. Health and Physical Education for Women
3. Health and Physical Education for Men
4. Nursing
5. Athletics

ALLIED HEALTH PROFESSIONS DEPARTMENT

ARTHUR G. SHIELDS, Acting Chairman

Corrective Therapy

Corrective therapy is the application of the principles, techniques, and psychology of medically oriented physical education as prescribed by the medical doctor to aid in the complete rehabilitation of the patient.

Men and women graduates with a major in physical education may qualify as corrective therapists with the Veterans Administration by completing a comprehensive six-weeks residency course at a Veterans Administration hospital. This course, conducted during the summer months by a well-qualified hospital staff, requires 240 clock hours of lectures, demonstrations, and clinical experiences in corrective therapy as it applies to the physical medicine and rehabilitation of a Veterans Hospital. Room and board are provided by the supervising hospital.

Students interested in corrective therapy should so indicate prior to the completion of their junior year. Before completing the course, applications may be filed with the Board of Civil Service Examiners, Veterans Administration Central Office, Washington, D.C. A list of Veterans Hospitals offering such training is available in the Dean's office.

Physical Therapy

The suggested major curriculum for Physical Education also satisfies entrance requirements to physicay therapy schools approved by the Council on Medical Education of the American Medical Association in collaboration with the American Physical Therapy Association. Since entrance requirements vary to some degree in the approved physical therapy schools, the student should devote his elective hours to additional courses in physics, chemistry, biology, and psychology.

After receiving the B. S. degree, the student enrolls in an approved physical therapy school of his choice for a twelve to sixteen month training period. At the completion of this specialized training, the student will be awarded a Certificate in Physical Therapy.

The following approved schools of physical therapy are located within a reasonable distance of Indiana:

Columbia University, New York
New York University, New York
State University of New York at Buffalo
Ohio State University, Columbus, Ohio
D. T. Watson Home of Physiatrics, Leetsdale, Pennsylvania
University of Pennsylvania, Philadelphia, Pennsylvania

A complete list of the twenty-one (21) schools which accept students with the B. S. degree in physical education is available in the Dean's office.

Occupational Therapy

The suggested major curriculum for Physical Education also satisfies entrance requirements to occupational therapy schools approved by the Council on Medical Education of the American Medical Association in collaboration with the American Occupational Therapy Association. Since entrance requirements vary to some degree in the approved occupational therapy schools, the student should devote his elective hours to additional courses in physics, chemistry, biology, and psychology.

After receiving the B. S. degree, the student enrolls in an approved occupational therapy school of his choice for an eighteen (18) month experience in the theory and practice of therapy. This is a carefully supervised experience under the direction of registered occupational therapists qualified to direct such student activity. Included here are program planning, hospital procedure, applying activity as treatment, record keeping, care of equipment, and academic work.

A list of the schools approved by the Council on Medical Education and Hospitals of the American Medical Association is available in the Dean's office.

FIRST YEAR

English I	4	English II	4
General Biology I	4	General Biology II	4
General Chemistry I	4	General Chemistry II	4
Health or Military Science	2	Physical Education	1
Art or Music or Theater	3	Humanities Electives	3
	17		16

SECOND YEAR

Literature I or II	2	Organic Chemistry	4
Organic Chemistry	4	Microbiology	3
Zoology	3	Algebra & Trig.	5
Quant. Anal. I	4	Psychology	3
Social Science Elective	3		15
Health and Physical Ed...	1		
	17		

THIRD YEAR

Biochemistry	3	Physics II	4
Physics I	4	Social Science Elective	3
Social Science Elective	3	Electives	7-9
*Electives	6		14-16
	16		

* Suggested electives include genetics, parasitology, anatomy, biotechnique physiology, mycology and radiation biology.

MEDICAL TECHNOLOGY

Medical Technology, which has become a full-fledged profession since World War II, is indispensible to the practice of modern medicine. As an integral part of medicine, it entails a wide range of clinical laboratory tests and studies which are invaluable to physicians and surgeons in clinical diagnosis and therapy. Consequently, the Medical Technologist must be a skilled and intelligent member of the medical team capable of actively engaging in furthering the laboratory knowledge of diseases and their treatment and in developing new and improved laboratory methods.

Modern clinical laboratory work requires personnel who possess extensive knowledge of Biology, Chemistry, Microbiology, Hematology, and Histology in addition to judgement, skill, and dexterity.

With the tremendous increase in the number of clinical laboratories during recent years, there is a dearth of Medical Technologists to staff them. At the present time there are approximately 35,000 registered Medical Technologists, and it is estimated that more than twice this number could be employed if available. Hence there are unlimited employment opportunities in this vital field of public service for those who possess the requisite qualifications and training.

The standard program in Medical Technology consists of three years of college study (including specific area requirements) plus a 12-month training period in an AMA approved hospital School of Medical Technology of which there are now about 800 in this country. There are forty-three (43) approved schools in Pennsylvania, ten of which are located within a fifty mile radius of Indiana University of Pennsylvania. Upon completion of the collegiate and clinical training, the student receives his baccalaureate degree from Indiana. Completion of the college and clinical training is followed by a board of examination conducted twice a year by the Registry of Medical Technology of the American Society of Clinical Pathologists. Successful passage of this examination certifies a student as a M.T. (Medical Technologist) signifying that he is a professionally qualified laboratory technologist.

The college phase of the Medical Technology program requires a minimum of 16 semester hours of Biology and Chemistry plus one semester of college mathematics. These requirements together with those in the University's general education program are included in the following three year curriculum:

SECOND YEAR

Literature I or II	2	Foreign Language	3
Foreign Language	3	Microbiology	3
Zoology	3	Algebra & Trig.	5
Quant. Anal. I	3	Psychology	3
Social Science Elective	3		
Health & Physical Ed.	1		
	15		14

THIRD YEAR

Organic Chemistry	4	Organic Chemistry	4
Physics I	4	Physics II	4
Social Science Elective	3	Social Science Elective	3
Elective	5-6	Elective	3-5
	16-17		14-16

FOURTH YEAR

This year of work is completed at a School of Medical Technology approved by the American Society of Clinical Pathologists and the American Medical Association. It includes both practical and theoretical work in all aspects of medical technology.

Urinalysis	4 weeks	Cytology	1 week
Hematology and Coagulation	8 weeks	Bacteriology, Parasitology and Mycology	12 weeks
Radio-Isotopes	1 week	Serology	3 weeks
Donor Center	1 week	Virology	1 week
Clinical Chemistry and Toxicology	12 weeks	Plasmaphoresis	
Blood Bank	4 weeks	Orientation	3 weeks
Histology	3 weeks		

EDUCATION FOR SAFE LIVING

JOHNNY J. MILLER, Chairman

The State Council of Education approved this new certification in January 1948. The program is administered by the Department of Health and Physical Education for Men. The four courses below, Introduction to Safety Education, Driver Education, the Organization and Administration of Safety Education, and Methods and Materials in Safety Education in the Secondary Schools meet the requirements for certification with 12 semester hours. A temporary standard certificate is issued upon the completion of these courses and it becomes permanent after two years of successful experience in the field.

HPe 251 Introduction to Safety Education **3 cr.**
HPe 252 Driver Education **3 cr.**
HPe 253 Methods and Materials in Safety Education in the Secondary Schools **3 cr.**
HPe 254 Organization and Administration of Safety Education **3 cr.**

See course descriptions listed under Health and Physical Education Department, on page 260.

DEPARTMENT OF HEALTH AND PHYSICAL EDUCATION FOR MEN

JOHNNY J. MILLER, Chairman

DEPARTMENT OF HEALTH AND PHYSICAL EDUCATION FOR WOMEN

C. ELIZABETH McCAULIFF, Chairman

Students who elect the coeducationally oriented Health and Physical Education Curriculum pursue the general education program required of all students (52 semester hours). Upon the satisfactory completion of the preceding general education program, Professional Education requirements (23-24 semester hours), Health and Physical Education Specialization requirements (45 semester hours) and free electives (7-8 semester hours), the student will be granted the degree of Bachelor of Science in Health Education by the University and will qualify for a Pennsylvania Provisional College Certificate in Health and Physical Education to be issued by the Department of Public Instruction in Harrisburg, Pennsylvania. This certificate will be valid for teaching health and physical education in any of the grades of the public schools of Pennsylvania.

* Fee required approximately $7.00.

Candidates for the Health and Physical Education program at Indiana University of Pennsylvania must demonstrate acceptable intellectual competence and physical qualifications as well as desirable character and personality traits. The professional program seeks to foster those qualities of individual character and competence which are inherent in personal and professional maturity.

HEALTH AND PHYSICAL EDUCATION FOR MEN

MAJOR CURRICULUM SEQUENCE

FIRST SEMESTER	S.H.	C.H.
Eng 101 English I	4	(4)
Biol 103 Biology I	4	(5)
HPE 142 Intro. to H. P. E. R.	2	(2)
MS 101 Military Science	1½	(3)
HPE 301 Tennis-Badminton	1	(3)
HPE 261 Senior Life Saving	1	(2)
or		
HPE 262 Water Safety Instructor's	1	(2)
General Education Elective	3	(3)
	16½	23
SECOND SEMESTER		
Eng 102 English II	4	(4)
Biol 104 Biology II	4	(5)
HPE 101 Personal-Community Health	2	(2)
HPE 307 Rhythms, Movement	1	(3)
MS 102 Military Science	1½	(3)
HPE 303 Bowling-Golf	1	(3)
General Education Elective	3	(3)
	16½	23
THIRD SEMESTER		
Sci 111 Science in Mod. Civilization	3	(5)
Psy 201 General Psychology	3	(3)
HPE 221 Human Anatomy	3	(3)
HPE 231 Football-Volleyball	1	(3)
HPE 212 Gymnastics-Tumbling	1	(3)
General Education Elective	6	(6)
	17	23
FOURTH SEMESTER	S.H.	C.H.
Eng 201 Literature I	2	(2)
or		
Eng 301 Literature II		
Ed Psy 302 Education Psychology	3	(3)
Hist 104 History of U.S. & Pa. II	3	(3)
HPE 310 Archery-Fencing	1	(3)
HPE 233 Basketball-Soccer	1	(3)
HPE 332 Baseball-Resistive Exercise	1	(3)
HPE 342 Analysis of Movement	3	(3)
General Education	3	(3)
	17	23

FIFTH SEMESTER		
Math 362 Prob. and Statistics	3	(3)
Biol 151 Human Physiology	3	(4)
HPE 441 Organization of Adm. P.E.	2	(2)
HPE 321 Meth. Elem. H.P.E.	2	(3)
HPE 333 Coaching: Football, Swimming Basketball	1	(3)
Ed 302 History & Philosophy of Am. Ed.	3	(3)
HPE 262 Water Safety Instructor or	1	(3)
HPE 334 Sports Officiating	1	(3)
HPE 305 Square-Folk Dance	1	(2)
	16	23

SIXTH SEMESTER		
HPE 341 Tests & Measurements H.P.E.	3	(3)
HPE 343 Physiol. of Exercise	2	(2)
HPE 344 Adapted Physical Education	2	(2)
HPE 404 Org. & Adm. School Health Prog.	3	(3)
HPE 318 Activity Intern. I	1	(3)
HPE 432 Conducting Intramural & Interscholastic Programs	1	(2)
HPE 345 Sports Injuries and First Aid	1	(3)
HPE 335 Wrestling, Track & Field	1	(3)
Free Elective	1	(2)
	15	24

SEVENTH SEMESTER	S.H.	C.H.
HPE 346 First Aid Instructors	1	(3)
HPE 442 Hist. & Phil of P.E.	2	(2)
Ed 301 Audio-Visual Education	2	(3)
HPE 408 Guided Research Prob.	2	(3)
General Education Elective	3	(3)
Free Elective	6	(6)
	16	19

EIGHTH SEMESTER	
Ed 421 Student Teaching	12
Ed 422 Prof. Practicum & School Law	2
	14
TOTAL SEMESTER HOURS	128

HEALTH AND PHYSICAL EDUCATION FOR WOMEN

MAJOR CURRICULUM SEQUENCE

FIRST SEMESTER	S.H.	C.H.
Eng 101 English I	4	(4)
Biol 103 Biology I	4	(5)
HPE 142 Intro. to H.P.E.R.	2	(2)
HPE 102 Swimming-Tennis or Swimming-Badminton	1	(2)
HPE 301 Tennis-Badminton	1	(3)
HPE 302 Soccer-Basketball	1	(3)
General Education Elective	3	(3)
	16	22

SECOND SEMESTER

Eng 102 English II	4	(4)
Biol 104 Biology II	4	(5)
HPE 101 Personal-Community Health	2	(2)
HPE 261 Senior Life Saving	1	(2)
HPE 303 Bowling-Golf	1	(3)
HPE 304 Volleyball-Softball	1	(3)
HPE 307 Rhythms-Movement	1	(3)
General Education Elective	3	(3)
	17	26

THIRD SEMESTER	S.H.	C.H.
Sci 111 Science of Mod. Civil.	3	(5)
Psy 201 General Psychology	3	(3)
HPE 221 Human Anatomy	3	(3)
HPE 305 Square-Folk Dance	1	(3)
HPE 306 Hockey-Tumbling	1	(3)
General Education Elective	6	(6)
	17	23

FOURTH SEMESTER

Eng 201 Literature I or Eng 301 Literature II	2	(2)
Psy 302 Educational Psychology	3	(3)
Hist 104 Hist. of U.S. & Pa.	3	(3)
HPE 308 Modern Dance	1	(3)
HPE 309 Apparatus-Track & Field	1	(3)
HPE 310 Archery-Fencing	1	(3)
HPE 342 Analysis of Movement	3	(3)
General Education Elective	3	(3)
	17	23

FIFTH SEMESTER

Math 362 Prob. and Statistics	3	(3)
Biol 151 Human Physiology	3	(4)
HPE 441 Organization of Adm. P.E.	2	(2)
Ed 302 Hist. & Phil. of Am. Ed.	3	(3)
HPE 321 Meth. Elem. H.P.E.	2	(3)
HPE 262 Water Safety Inst.	1	(3)
HPE 311 Adv. Hockey-Volleyball	1	(3)
HPE 316 Officiating I	1	(3)
	16	24

SIXTH SEMESTER

HPE 341 Tests & Meas. H.P.E.	3	(3)
HPE 343 Physiol. of Exercise	2	(2)
HPE 344 Adapted P.E.	2	(2)
HPE 404 Org. & Adm. Sch. Health Prog.	3	(3)
HPE 312 Adv. Basketball-Gymnastics	1	(3)
HPE 317 Officiating II	1	(3)
HPE 318 Activity Intern. I	1	(3)
Free Elective	2	(2)
	15	21

SEVENTH SEMESTER	S.H.	C.H.
HPE 346 First Aid Instructor	1	(3)
HPE 442 Hist. & Phil. of P.E.	2	(2)
Ed 301 Audio-Visual Education	2	(3)
HPE 406 Synchronized Swimming	2	(3)
or		
HPE 407 Advanced Modern Dance		
or		
HPE 408 Guided Research Prob.		
General Education Elective	3	(3)
Free Elective	6	(6)
	16	20

EIGHTH SEMESTER	
Ed 421 Student Teaching	12
Ed 422 Prof. Practicum & School Law	2
	14

NURSING DEPARTMENT

MARIAN A. MURRAY, Chairman

Indiana University of Pennsylvania in collaboration with the Latrobe Area Hospital, Latrobe, Pennsylvania, has developed a baccalaureate degree program in nursing initiated in September of 1968. This program meets all the requirements of the State Board of Nursing Examiners and the Department of Public Instruction. Graduates of the curriculum will be granted the degree, bachelor of science in nursing.

The freshman and sophomore years will be devoted primarily to a general education curriculum on the Indiana University of Pennsylvania campus. A summer session plus the junior and senior years will be spent at the Latrobe Area Hospital.

The dichotomous nature of a liberal-technical education is truly exemplified by the baccalaureate nursing program offered by the University. The curriculum has been designed to acquaint the prospective nurse with a broad background in general education coupled with the specialized knowledge and skills required for professional competency. The philosophy of this inter-relationship conceives of the professional nurse as a well-informed, well-adjusted, and socially conscious individual desirous of ministering to human suffering. She possesses a keen sensitivity to the worth and dignity of human patients and views them as people instead of as problems to be solved. Additionally, she strives to practice within the professional code of nursing ethics, to interpret her profession to others, and to grow professionally by keeping abreast of current developments.

The educative functions through which the University aims to achieve these objectives are the imparting and integrating of knowledge together with the mastery of problem solving techniques. The Department of Nursing endeavors to serve nursing students in residence, nursing alumni, nurses employed in hospitals and health agencies, schools of nursing, and the nursing profession, and to contribute to the improvement of nursing services at all levels.

Both men and women are eligible to enroll in the nursing program.

Nursing Curriculum*

FIRST SEMESTER	Sem. Hrs.
Eng 101 English I	4
Chem 101 Chemistry	3
Psy 201 General Psychology	3
Biol 103 Gen. Biology I	4
HPe 102 Physical Education I	1
	15

SECOND SEMESTER	Sem. Hrs.
Eng 102 English II	4
Chem 102 Chemistry	3
Soc 151 Intro. to Sociology	3
Biol 151 Physiology	3
HPe 101 Health	2
	15

* Curriculum subject to change on the recommendations of the University or Latrobe Area Hospital.

THIRD SEMESTER	
Biol 361 Microbiology	3
Intro. to Art, Music, Theater	3
Hist 101 History of Civilization I	3
Math 101 Foundations of Math	3
HPe 203 Physical Education II	1
Foreign Language or	
Psy 353 Child Psychology or	
SpE 215 Child Development or	
HE 218 Child Development	3
	16

FOURTH SEMESTER	
HE 212 Nutrition	3
Eng Literature I or II	2
Hist 104 History of U.S. & Pa. II	3
Phil 330 Philosophy of Science	3
Foreign Language or	
Psy 452 Social Psychology	3
Anth 110 Intro. to Anthropology	3
	17

PRE-FIFTH SEMESTER (Summer Session—10 wks.)	S.H.
Fundamentals of Nursing	6
Foundations of Nursing	2
	8

FIFTH SEMESTER	
Nursing I—(Applied Sciences)	
Clinical Practicum—(Medical-Surgical)	
Introduction to Community Health	
	16

SIXTH SEMESTER	
Nursing II—(Applied Sciences)	
Clinical Practicum—	
(Maternal & Child Health)	
Contemporary Trends in Nursing	
	16

SEVENTH SEMESTER	
Nursing III	
Clinical Practicum—	
(Psychiatric Nursing)	
Seminar in Nursing	
	16

EIGHTH SEMESTER	
Nursing IV	
Clinical Practicum—(Medical-Surgical)	
Seminar in Nursing	
	16

THE DEPARTMENTS AND COURSE DESCRIPTIONS

Department of Art and Art Education

LAWRENCE F. McVITTY, Chairman of Department

BARBARA J. BALSIGER
VAUGHN H. CLAY, JR.
ROBERT J. CRONAUER
ANTHONY G. DeFURIO
THOMAS J. DONGILLA
JOHN J. DROPCHO
ROBERT W. HAMILTON
JAMES M. INNES
GEORGE B. JOHNSON
JOANNE P. LOVETTE
BENJAMIN T. MILLER
RALPH W. REYNOLDS
FRANK ROSS
ROBERT C. SEELHORST
JEAN J. SLENKER
ROBERT E. SLENKER
ROBERT J. VISLOSKY

COURSE DESCRIPTIONS

ART IN GENERAL EDUCATION

Art 101 Introduction to Art (elective for all students) **3 cr.**
Studies in the understanding and enjoyment of the visual arts as modes of expression, feeling, and communication make up the content of this course. Reproductions, demonstrations, slides, moving pictures as well as field trips to see original works of art, are used in sampling our cultural heritage.

Art 115 Art History I **3 cr.**
The visual arts are examined as modes of expression in relation to the life of the individual in the home and in the community. The period covered is from Prehistoric times to the Renaissance.

Art 116 Art History II **3 cr.**
This is a combination of Art History in which appreciation and critical judgment of old and modern masterpieces are goals. The relation of art to the world from the Renaissance to the 20th Century is presented. A brief survey of modern art is presented in the latter part of the course.

CORE SEQUENCE COURSES

These courses are lower level courses which are prerequisite to upper level courses.

Art 111 Drawing I (Drawing in All Media) **2 cr.**
A foundation course in drawing which includes a study of perspective light and shadow and composition with a variety of media and subject matter.

Art 112 Drawing II (Composition and Figure Drawing) **2 cr.**
Figure construction, anatomy, and life drawing are studied. Included are pictorial design and composition.

Art 113 Design I (Color and Design) **2 cr.**
Basic elements and principles of design and color are studied. Problems in two and three dimensional design are completed.

Art 114 Design II (Design in Volume and Space) **2 cr.**
This course provides the student with a wide variety of experiences in three dimensional design using various materials. Form, volume, and space are considered in different materials and in their relationship to sculpture, architecture, and the crafts. The emphasis is on experimentation with materials and ideas.

Art 211 Painting I (Water Color and Mixed Media) **2 cr.**
The course is primarily concerned with transparent water color painting but includes gouache and mixed media. Work begins with a study of brush strokes and realistic on-the-spot painting and progresses through creative realism, semi-abstract and non-figurative approaches.

Art 212 Painting II (Oil Color and Mixed Media) **2 cr.**
This is a beginning course in painting with opaque plastic media. The student is introduced to the technical as well as the aesthetic and philosophical basis of painting through a creative approach to the design possibilities inherent in these plastic materials and their associated uses in processes.

Art 213 Crafts I (Crafts in Metal and Wood) **2 cr.**
In this course the student is given an opportunity to develop his design awareness through experiencing those craft processes associated with wood and metal. Hand and power tools are used to experiment with these materials in discovering inherent design and construction possibilities.

Art 214 Ceramics I (Pottery and Ceramics) **2 cr.**
The basic processes of wheel throwing, hand building, decoration, and ceramic sculpture will be introduced. Earthenware glazes will be dealt with and color tested in relation to their use in classroom situations.

Art 215 Sculpture I (Modeling and Sculpture) **2 cr.**
The student develops personal expression while acquiring a knowledge of form as related to the figure. The emphasis will be placed on clay modeling of the human figure. In addition basic carving processes in both stone and wood will be explored.

Art 216 Metalry (Jewelry) **2 cr.**
The designing and creating of handwrought, decorative objects using gemstone, ivory, enamels, wood and nonferrous metals is approached from the viewpoint of the beginning craftsman learning the basic processes of metal fabrication. Jewelry making, the lapidary arts and beginning metal-smithing are experienced.

Art 217 Printmaking I (Graphic Arts) **2 cr.**
The basic techniques of graphic expression will be studied. They will include: relief, intaglio, lithograph, and serigraph prints.

Art 218 Graphic Design I
(Lettering, Commercial Art and Illustration) **2 cr.**
Layouts are analyzed as to their quality. The students explore various techniques and how they can be translated into commercial art work, package design, trademark and other design problems are confronted. Lettering is stressed, both instant type and hand lettering.

Art 220 Mechanical Drawing and Industrial Design **2 cr.**
The principles and methods of instrumental drawing and shape description are studied in theory and in practice. Modern industrial design practices are studied through the planning and building of three dimensional products.

Art 311 Painting III **2 cr.**
Students are given the opportunity for more individual growth in their creative and expressive ability through painting. Experiences are offered in the transparent and opaque qualities of oil, synthetic and water base media.

Art 312 Ceramics II **2 cr.**
The basic processes will be explored in greater depth and with more individual latitude. Firing techniques and the formulation and testing of stoneware glazes will take place.

Art 313 Sculpture II **2 cr.**
An extension of sculpture I. The student explores carving processes in greater depth. A construction approach to sculpture will begin so that all students will experience both the additive and subtractive approaches to sculpture.

Art 314 Costume and Theatre Arts **2 cr.**
Color and design are used to solve problems in school and college dramatics and pageantry. Theory and practice in the design, construction, painting of scenery, lighting, costume, and properties are basic experiences.

Art 315 Printmaking II **2 cr.**
The basic techniques of graphic expression will be expanded to provide the student with a wider range of possibilities within the techniques of printmaking.

Art 316 Metalry II—Enameling and Raising (Jewelry) **2 cr.**
Further exploration of the metal arts processes are experienced in this course. Advanced silver-smithing, casting in metal and enameling on metal are basic processes attempted by the student craftsman.

Art 321 Drawing III **2 cr.**

This is an advanced course in drawing designed to meet the problems of the student who has some background in the field. Problems of composition, two and three dimensional relationships, and surface will be discussed on an individual basis in conjunction with the use of traditional subjects such as landscape and the figure.

Art 410 Primitive and Pre-Greek **3 cr.**

A survey of the painting, architecture and sculpture of Prehistoric Man, Egypt and the Near East as well as the Art of Primitive Man of later times—The American Indian, African Art and the Art of Oceania. The course will also include material on ceramics, and the decorative arts of these people as a part of their cultural expression.

Art 411 Art History III **2 cr.**

The great revolutionary movements which began about 1850 and the trends of contemporary arts are vital to the art students of today. This course completes the sequence in the History of Art through the ages.

Art 413 Seminar in Art **2 cr.**

In the course the theoretical background of the arts are studied. The historical, sociological, and formal approaches to the arts are examined with a particular emphasis on the visual arts. This course is a survey of speculative aspect of the arts, and the relation of the arts to life.

Art 415 Crafts II (Fabrics) **2 cr.**

An experience in traditional and experimental techniques of handling the loom. A study of weaving and related processes in fabrics with emphasis on the artistic and design aspects.

PROFESSIONAL EDUCATION COURSES

Art 317 Arts and Crafts in Elementary Education **2 cr.**

This course is designed to help the future art teacher understand the aesthetic and creative development of elementary school children. Art education is studied as a process which helps develop the total growth of the child, and his art products are evaluated by this criterion. Art programs, planning, and motivation are studied critically. Experience is given with two dimensional materials as they apply to the elementary level.

Art 318 Arts and Crafts in Secondary Education **2 cr.**

(This course is a prerequisite to student teaching)

The relationship of art education to the total secondary curriculum is studied to determine the goals of junior-senior high school art. The adolescent and his creative products are

analyzed to help the prospective art teacher to identify himself with the problems of his students. Emphasis is placed upon the concept of the adolescent's waning self-confidence in his creative expression and his dire need of aesthetic experiences help reorient himself.

Art 319 Teaching Seminar in Elementary Art Education 1 cr.

Art 320 Teaching Seminar in Secondary Art Education 1 cr.

These courses are for the practical application of classroom theory involving children and youth. The concern is with development, use and evaluation of contemporary teaching methods. Art 317 and 319, and Art 318 and 320 are related courses and should be scheduled concurrently. All four courses are prerequisites for student teaching.

Ed 421 Art Student Teaching and Directed Student Activities 12 cr.

Here the prospective art teacher is given many opportunities, under capable supervision, to guide the creative efforts of students at all age levels in the primary, elementary, junior, and senior high schools. Current philosophies of general and art education are applied in a practical teaching situation. Emphasis is placed on the creative growth of teacher and pupil.

Ed 422 Professional Practicum (including School Law) 2 cr.

Consideration is given to recent education trends and methods, art curricula, and to planning of art courses for all grade levels. Practicum also includes professional readings, discussions, observations, and the accumulation and organization of pertinent teaching materials.

ELECTIVES IN THE ART CURRICULUM

With the foundations already established in three years of college art work the student may elect advanced courses. The work will be mainly individual, experimental, and in depth, with the aim of helping the student to make the transition from the position of student in the college classroom with directed studies to the position of artist. These studio workshop courses will stress advanced techniques in the particular field of study.

Art 451 Crafts III (Advanced Crafts) 2 cr.

This course is designed to have the student explore the crafts area in depth. The design and construction of functional objects will be undertaken with emphasis on innovation.

Art 452 Ceramics III (Advanced Ceramics) 2 cr.

In this course individual long range problems in ceramic art and decoration will be undertaken to foster student competence in the field.

Art 453 Sculpture III (Advanced Sculpture) 2 cr.
This course is designed to give the student the opportunity to pursue independent study in sculpture. The materials and processes will be of his choosing and the work related to his own concepts with the hope that these concepts will be broadened.

Art 454 Painting IV (Advanced Painting) 2 cr.
Individual experimentation and exploration by the student painter are encouraged in this course. Investigation of the various technical approaches from the era of the masters to those used by contemporary artists is encouraged. Students are helped to discover their individually unique method of self expression.

Art 455 Graphic Design II (Advanced Commercial Art) 2 cr.
This course stresses advanced techniques in layout and illustration. The student explores ideas, such as invention of trademarks and how products are brought about. Layouts are analyzed as to their quality. Package design is studied.

Art 457 Printmaking III (Advanced Graphic Art) 2 cr.
The student will elect to study the print in greater depth. He will concentrate his interest in two of four basic printmaking processes. He will work toward development of his own techniques and working processes.

Art 458 Architecture and Home Planning 2 cr.
This course is designed for the student who wishes to explore basic ideas in home planning and architecture through studio experience, and a study of architectural history. The emphasis is upon building in the United States and contemporary houses.

Art 459 Advanced Fabrics 2 cr.
Advanced study in areas of construction, decoration, and use of textiles constitutes this course. Weaving, hooking, batik, silk screen, block printing, applique and stitchery will be techniques available to students.

Art 460 Advanced Metalry (Advanced Jewelry) 2 cr.
Design and the processes associated with the art of metalry are given greater concentration. The developing craftsman is encouraged to investigate, in depth, one or more of the metal arts as an extension of the basic courses.

SPECIAL COURSES

Art 330 Arts and Crafts for the Mentally Retarded 3 cr.
The materials and processes of arts and crafts are studied for opportunities they offer in the training, therapy and education of students who are mentally retarded, crippled, or need special help for any reason.

HE 213 Principles of Design **2 cr.**

Principles of design and color are studied and applied to a crafted object. The major emphasis is on the aesthetic quality inherent in designing with materials.

El 213 Art for Elementary Grades **2 cr.**

The creative growth and development of children is studied. Students are given experiences in the basic art materials and media, as well as opportunity to plan art motivation for children. The course requires that the student attend one lecture session and two studio sessions per week.

El 214 Teaching Art in Elementary Grades **3 cr.**

This course provides the student with a wide variety of two and three dimensional art experiences with the emphasis on a developmental sequence from simple to more complex variations of a craft. Emphasis is placed on the creative challenges of the art experience.

BIOLOGY DEPARTMENT

FRANCIS W. LIEGEY, Chairman

ROBERT K. ALICO
*FRANK T. BAKER
THOMAS E. CONWAY
MICHAEL R. CHARNEGO
GARY M. FERRENCE
WALTER W. GALLATI
LOUIS L. GOLD
DONALD E. HOFFMASTER
LEON J. HUE
JAN HUMPHREYS
ROBERT E. MERRITT
JAMES H. MILLER
JERRY LEE PICKERING
GOULD F. SCHROCK
ARTHUR G. SHIELDS
DWIGHT E. SOLLBERGER
MARTIN L. STAPLETON
RICHARD M. STRAWCUTTER
HENRY H. VALLOWE
RICHARD F. WAECHTER
WILLIAM M. WASKOSKIE
CYRIL J. ZENISEK

* On leave of absence.

GENERAL EDUCATION COURSES

Biol 103 General Biology I **4 cr.**

This course deals with the principles of biology. Topics include cellular structure and physiology, growth and repair, reproduction and development, control, sources of food energy, inheritance, and man's interrelationship with his biological environment. The classification of plants and animals is reviewed briefly. Three hours lecture and two hours laboratory.

Biol 104 General Biology II **4 cr.**

Prerequisite: General Biology I.

A continuation of General Biology I. Three hours lecture and two hours laboratory.

Sci 111 Science in Modern Civilization **3 cr.**

This course is designed to acquaint the secondary student with some of the major discoveries of science in all fields and the effects of discoveries upon man's way of life. Emphasis is placed upon developing an understanding of science and its implications. Discoveries leading to more abundant supplies of energy, discoveries contributing to better health and longer life ,more rapid transportation, to a more abundant and better food supply, better housing, better clothing and to greater destructive potential are some of the topics developed.

BIOLOGICAL SCIENCE COURSES

Biol 111 Botany I **3 cr.**

Prerequisites: General Biology I and II.

Botany I is primarily a study of the flowering plants. Topics include the anatomy and life processes of plant cells, leaves, stem, roots, flowers, seeds, and fruits. The economic importance of plants used by man and the recognition and classification of the seed plants in the immediate environment of the university are included. Two hours lecture and three hours laboratory per week.

Biol 112 Botany II **3 cr.**

Prerequisites: General Biology I and II. Two hours lecture and three hours laboratory per week.

Botany II is concerned primarily with the non-flowering plants. It considers both the anatomy and life processes of selected algae, bacteria, fungi, mosses, ferns, and their allies. The economic importance and health implications of certain of these groups are emphasized. The recognition and classification of the non-flowering plants of the immediate surroundings are stressed.

Biol 121 Zoology I **3 cr.**

Prerequisites: General Biology I and II.

This is a study of the life history, habits, origin, development, physiology and anatomy of the main phyla of invertebrates. A phylogenetic sequence is followed to show interrelationships among the phyla. The student becomes acquainted with the many invertebrate species found locally. Two hours lecture and three hours laboratory per week.

Biol 122 Zoology II **3 cr.**

Prerequisites: General Biology I and II. Two hours lecture and three hours laboratory per week.

This course is a study of the chordata in general, and more particularly the classes of vertebrates. Topics studied include the anatomy, physiology, origin, development, and life history of representative members of each class. Special attention is given to the vertebrates found in the vicinity of the university.

Biol 251 Field Botany **3 cr.**

Prerequisites: General Biology I and II.

This is a course in the taxonomy of the vascular plants of the region. It includes the ferns, fern allies, shrubs, trees and herbaceous plants. The use of the standard manuals for the identification of plant materials is stressed. Students are required to make collections for their future use. Two hours lecture and three hours laboratory per week.

Biol 252 Field Zoology **3 cr.**

Prerequisites: General Biology I and II.

Field Zoology is a course in the study of animals in the field; the collection of such forms, and the preparation and utilization of them for museum and instructional purposes. Students are required to make collections for their future use. Two hours lecture and three hours laboratory per week. Field trips are required.

Biol 261 Ornithology **3 cr.**

Prerequisites: General Biology I and II.

Ornithology is a study of the birds of the region supplemented by a review of the major orders of birds of the west-

ern hemisphere. Indoor studies of skins are made during the early part of the course, while the latter part of the course is largely field work. Early morning field trips are required. Two hours lecture and three hours laboratory per week.

Biol 262 Entomology **3 cr.**

Prerequisites: General Biology I and II.

This is an introduction to the orders of insects, considering their characteristics, habits, and economic relations, together with the collecting and identifying of representative forms from Western Pennsylvania. Two hours lecture and three hours laboratory per week.

Biol 263 Genetics **3 cr.**

Prerequisites: General Biology I and II.

The purpose of this course is to give the student an understanding of the laws of inheritance as they operate in plants, animals, and humans. Cell structure, mendelian inheritance, eugenics, linkage, probability, crossing over, and random assortment are considered. Two hours lecture and three hours laboratory per week.

Biol 271 Evolution **3 cr.**

Prerequisites: General Biology I and II.

This course deals with the principles of organic evolution. Various lines of evidence for evolution are studied as well as the operational mechanisms involved which have resulted in present-day organisms. Consideration is given to the origin and phylogenetic relationships of biologic groups. The historical development of evolutionary thought is also considered. Three hours lecture per week.

Biol 272 Conservation of Plant and Animal Resources **3 cr.**

Prerequisites: General Biology I and II.

In this course special attention is devoted to a study of accepted practices in soil, water, forest, and game conservation. Numerous local and state conservation specialists are called in to assist in the discussion of the specialized fields of conservation. Field work is an essential part of the course. Two hours lecture and three hours laboratory per week.

Biol 281 Parasitology **3 cr.**

Prerequisite: Zoology I.

An introductory course which covers the parasitic protozoa, flatworms, and roundworms. Major emphasis is placed upon species infesting man and includes their structure, physiology, ecology, life cycles, pathogenicity and treatment. Laboratory work includes some dissection of vertebrate hosts and fixing, staining and mounting of any parasites recovered. Arthropods involved in parasite transmission are also included. Two hours lecture and three hours laboratory per week.

Biol 285 Biotechniques **3 cr.**

Prerequisites: General Biology I and II; General Chemistry I and II.

Through laboratory work, student will gain manipulative skills and allied information pertaining to techniques frequently used by biologists. Major consideration will be given to microscope slide preparation with lesser emphasis on specialized microscopy and the use of various instruments. Two combined lecture/laboratory sessions of three hours each.

Biol 331 Embryology **3 cr.**

Prerequisite: Zoology II. Two hours lecture and three hours laboratory per week.

A course in the development of vertebrates as exemplified in the frog, chick, and pig. Major emphasis is placed on the chick. The sequence of maturation, fertilization, cleavage, gastrulation and origin of organs is traced.

Biol 332 Comparative Anatomy **3 cr.**

Prerequisite: Zoology II. Embryology is desirable. Three combined lecture/laboratory sessions of two hours each.

This course provides the student with a comparative study of the shark, Necturus and cat. Each system is studied in all three forms concurrently providing a true comparison. Additional vertebrate forms are included in the lecture material.

Biol 341 General Physiology **3 cr.**

Prerequisites: General Biology I and II and General Chemistry I and II.

This course deals first with an exposition of the basic concepts as they apply to the structure of cells and their activities. This is followed by a consideration of the manipulation of energy—of chemical concentration, of electrical potential, of mechanical energy, and of radiant energy—in the cell and organism. Finally, the problems associated with growth and reproduction and the factors involved in the integration of the organisms are considered. Two hours lecture and three hours laboratory.

Biol 351 Plant Physiology **3 cr.**

Prerequisite: Botany I. Two hours lecture and three hours laboratory per week.

This course studies the physiological processes occurring in plants. The phenomena of imbibition, osmosis, digestion, photosynthesis, respiration, transpiration and mineral nutrition are considered in relation to the growth and development of the plant.

Biol 352 Animal Physiology **3 cr.**

Prerequisites: Zoology I and II. Two hours lecture and three hours laboratory per week.

The purpose of this course is to give the student a general background of how animals carry on their bodily processes

and a more detailed knowledge of human physiology. Related anatomy is taught as needed.

Biol 361 Microbiology **3 cr.**

Prerequisites: General Biology I and II, General Chemistry I and II, Organic Chemistry I. Two hours lecture and three hours laboratory per week.

This course is a study of microscopic forms of life, both plant and animal, which are commonly encountered in biological work. Some emphasis is placed on the study of disease-producing species of man and his domesticated animals. Methods of culturing forms used in high school teaching are studied.

Biol 362 Ecology **3 cr.**

Prerequisites: General Biology I and II.

This is a study of the interrelations and adaptations of plants, and animals and includes consideration of physical as well as biotic environmental factors. Field trips are taken to study various types of ecologic situations. Two hours lecture and three hours laboratory per week.

Biol 371 Vertebrate Anatomy **3 cr.**

A study of the anatomical organization of the vertebrate animal. The cat is used as the subject for a detailed laboratory dissection. Prerequisite: Zoology II. Two hours lecture and three hours laboratory per week.

Biol 372 Plant Anatomy **3 cr.**

Prerequisite: Botany I. Two hours lecture and three hours laboratory work per week.

The embryological development and the growth and maturation of typical vascular plants will be studied. Emphasis is placed on the differentiation and maturation of the root, stem, leaf and flower among representatives of various plant families.

Biol 381 Mycology **3 cr.**

Prerequisites: Botany II, Microbiology or consent of instructor.

This course is designed to introduce the student to the study of the fungi. Myxomycetes and Eumycophyta including the classes Phycomycetes, Ascomycetes, Basidiomycetes, and Fungi Imperfecti will be studied. Emphasis will be given to those organisms which are of economic importance as casual organisms of disease in plants and animals. The investigation will introduce taxonomy, morphology, physiology and ecology of the fungi. Techniques of isolation, growth in pure culture, and identification will be stressed.

Biol 472 Radiation Biology **3 cr.**

Prerequisites: Two years of biology, Physics I-II, Chemistry I-II. Additional chemistry through organic and biological chemistry strongly recommended.

Basic aspects of nuclear physics, the phenomena of radioactive isotopes and the biological effects of such isotopes. Concurrent laboratory work utilizing instruments for detection and measurement of radioactive nuclids used in biological experimentation. Two hours lecture, three hours laboratory per week.

Biol 490 Biology Seminar **1-3 cr.**

The seminar is a discussion of recent trends in biological thought and research. Students report on assigned readings and/or personal research. An occasional outside speaker may summarize his research findings or lecture in his area of specialization.

Biol 498 Problems in Biology **1-3 cr.**

A course in which the student may independently investigate any field of biology in which he is interested. This work is supervised by a faculty member but does not involve regular class or laboratory hours. The student should expect to spend three hours per week for each credit earned.

Biol 499 Research Biology **3 cr.**

A course designed to acquaint the undergraduate student with the techniques of modern research by actively engaging in a program of biological experimentation and/or research. Students will work in close harmony with the faculty member (or members) engaged in an active research project. There are no formal lectures or laboratories and a broad biological background is required. Enrollment is by permission only.

COURSE REQUIRED OF EDUCATION MAJORS IN THE VARIOUS FIELDS OF SCIENCE

Ed 451 Teaching Science in the Secondary School **3 cr.**

Prerequisites: 12 hours of work in major field. Two hours lecture and three hours laboratory work per week.

This course is planned to give the science major a thorough background in the problems of teaching science. The objectives of science programs in secondary schools, selection of textbooks, sources of suitable literature, how to secure materials for instruction, the preparation of units, and special techniques are studied.

REQUIRED COURSES FOR STUDENTS IN ELEMENTARY EDUCATION

Biol 311 Environmental Biology **4 cr.**

This is a laboratory and field course that provides the student with basic knowledge in biology as well as some practical aspects that can be used and applied in the elementary school. The physical and biological aspects of the environment constitute the main theme of the course. Offered on the block only.

El 312 Teaching of Elementary Science **3 cr.**

The fundamental areas of physics and chemistry are covered in this course. Student participation is fundamental to their understanding of the basic principles that can be transferred to the elementary classroom, and to their familiarization with scientific equipment. The latter part of the course is devoted to a survey of the biological environment and continues the work begun in Elementary Science.

REQUIRED COURSES FOR STUDENTS IN HOME ECONOMICS

Biol 151 Human Physiology **3 cr.**

Functions of various tissues, organs and systems of mammals as applied to the human organism. Recommended for home economics, physical therapy and medical technology students. Not open to biology majors. Two hours lecture, two hours laboratory per week.

Biol 361 Microbiology (Sanitation) **3 cr.**

This course is a study of microscopic forms of life, both plant and animal, which are commonly encountered in biological work. Some emphasis is placed on the study of disease-producing species of man and his domesticated animals. Methods of culturing forms used in high school teaching are studied. Two hours lecture and three hours laboratory per week.

SCHOOL OF BUSINESS

ALBERT E. DRUMHELLER, Dean

LEE ROY H. BEAUMONT, JR.
JAMES F. CAWLEY
CHARLES L. COOPER
ROBERT H. DOERR
ROBERT D. DOUGLASS
FRANK GHESSIE
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ARLENE RISHER
LESLIE S. SPENCER
CHARLES B. STEVENSON
JAMES K. STONER
BEATRICE F. THOMAS
HAROLD W. THOMAS
DALE WOOMER

The courses listed below (prefix Bus) are available to students in the Business Education Department, the Distributive Education Department, and the Business Management Department. Students in the School of Business should refer to the specific course requirements of their respective department (BE—Business Education, DE—Distributive Education, and BM—Business Management) shown on the following pages.

Bus 101 Business Organization and Management **3 cr.**

This introductory course is an overview of the major aspects of business and business management. The interrelated activities of a business firm are integrated through the major functions of management: planning, organizing, directing, and controlling. Emphasis is placed upon principles, practices, and methods common to most business firms in a private enterprise system.

Bus 131 Principles of Typewriting **2 cr.**

For those persons who have had instruction in this area, a test is given and exemption from taking the course granted if course standards are met.

This introductory course places emphasis on the development of correct techniques in typewriting. The student is introduced to the basic styles of business letters, simple tabulations, and simple manuscripts. Individual remedial work is given. Specific standards of speed and accuracy are required.

Bus 132 Intermediate Typewriting **2 cr.**

Prerequisite: Bus 131 with a grade of "C" or better or credit by examination.

This course emphasizes the further development of speed, accuracy and production ability. Work includes business letters with special features, technical papers, business reports, business forms, rough drafts, manuscripts, liquid and stencil duplication.

Bus 221 Introduction to Accounting **3 cr.**

Prerequisites: BM 111 or BE 111.

This is the first course in this area and a prerequisite. Its purpose is to introduce the students to the keeping of records for service and professional establishments as well as mercantile enterprises involving the single proprietor. Emphasis is placed upon the distinction between keeping records on the cash basis as compared to the accrual basis. Consideration is given to special journals, the combined-cash journal, auxiliary records, and business papers.

Bus 233 Marketing **3 cr.**

A study of the system of interacting business activities necessary to the planning, pricing, promoting, and placing of want-satisfying goods and services for use by household consumers and industrial users. Concepts and principles will be analyzed in order to give a basic understanding of the marketing system and its significance today.

Bus 235 Business Law I **3 cr.**

This course deals with the nature of law and the agencies and procedures for its enforcement, contracts, agency employment, negotiable instruments, property, bailments and transportation. The aim is to apply principles of law to everyday life and to establish proper interests, ideals and attitude toward law as a means of economic and social control.

Bus 251 Intermediate Accounting **3 cr.**

Prerequisite: Bus 221.

Special consideration is given in connection with accruals and deferred items; the significance and handling of valuation accounts and the interpretation of the effect of all types of transactions on the operation of the business are stressed throughout the course. Special attention is given to the voucher system and to the preparation of columnar records for different types of business along with the preparation and interpretation of comparative financial reports. Emphasis is placed on payroll accounting, the organization, operation, and dissolution of partnerships.

Bus 261 Shorthand Theory **3 cr.**

This is an introductory course in the basic principles of Gregg Shorthand, Diamond Jubilee.

Bus 262 Shorthand Dictation **3 cr.**

Prerequisite: Bus 261.

There are three major objectives for this course: to review and strengthen the student's knowledge of the principles of Gregg Shorthand, Diamond Jubilee, to build shorthand-writing speed, and to build transcription skill.

Bus 271 Advanced Typewriting **2 cr.**

Prerequisite: An average of "C" or better in Bus 131 and Bus 132.

Emphasis is placed upon the further development of speed, accuracy and production ability. Practical office typing is stressed. Work assignments include advanced letter forms, legal documents, statistical reports and tables and manuscripts. Students will become acquainted with auxiliary office machines that require typing ability. Machines such as the Vari-typer and offset duplicator may be included.

Bus 321 Business Communications **3 cr.**

Prerequisite: "C" average in English 101 and 102.

This course stresses the improvement of grammar and punctuation and helps students build their vocabularies. It is designed to develop skill in the writing of several kinds of business letters and reports, as well as application letters and data sheets.

Bus 331 Sales and Retailing **3 cr.**

This course comprises a survey and analysis of the fields of retailing. A study is made of textile and non-textile merchandise, requirements for sales personnel, types of customers, merchandising plans and procedures, merchandise pricing and selling techniques.

Bus 332 Retail Management **3 cr.**

Prerequisites: Bus 331, or Bus 333, or Bus 233.

This course is an advanced study of the units of Sales and Retailing, and includes a study of merchandising control, stock planning, buying, pricing, personnel training, store layout and equipment, retail advertising and display. Suggested public relations activities are practiced in this course.

Bus 333 Principles of Selling **3 cr.**

Techniques of successful selling are studied and practices. Topics covered include the selection of prospects, the sales approach, determining customer needs, the sales presentation, overcoming objections of the customers, closing the sale and suggestion selling. Sales demonstrations incorporating audio-visual aids will be a part of the course.

Bus 335 Office Machines **2 cr.**

This course covers the various fundamentals of operating office machines—rotary, key driven, and printing calculators; key punch; dictating and transcribing machines; bookkeeping machines. It includes instruction in records management.

Bus 336 Business Law II **3 cr.**

Prerequisite: Bus 235.

The basic aim of this course is the same as that stated for Business Law I. Attention is given to kinds of business organizations, sales, insurance, surety and guaranty, leases and mortgages, trust and estates, bankruptcy, business torts and crimes.

Bus 339 Business Data Processing **3 cr.**

This course is designed to familiarize students with the development of Business Data Processing Systems, numbering systems, and data representation. A study will be made of all types of input, processing, and output equipment for off line as well as on line computing equipment. The student will complete exercises in flow charting and computer programming.

Bus 352 Corporate Accounting **3 cr.**

Prerequisite: Bus 251.

This course is a continued study of the financial principles and practices of accounting with emphasis on the characteristics, records, and financial reports of corporations.

The following topics are included: corporate capital, depreciation, revaluation of plant and equipment, intangibles, inventory valuation, cash and temporary investments, and receivables.

Bus 353 Cost Accounting **3 cr.**

Prerequisite: Bus 352.

Basic theory and procedures for determining unit cost of production and cost control involving material, labor, and manufacturing expenses in job-order and process cost systems. The costing of joint and by-products and estimated cost systems is also considered.

Bus 363 Transcription **3 cr.**

Prerequisite: Bus 262.

This course develops additional speed in taking dictation with much emphasis placed on the development of transcription skill.

Bus 364 Secretarial Office Practice **3 cr.**

Prerequisite: Bus 363.

This course is an advanced study of the theory and the practice in activities common to the office—handling the mail, telegraphic services, shipping services, meeting callers, various business reports, financial and legal duties, transcription, secretarial standards; personality, reference books, itineraries, preparation of documents, editing, etc.

Bus 454 Federal Taxes **3 cr.**

Prerequisite: Bus 352.

This course is designed to enable the students to gain a familiarity with the Federal Income Tax Laws as they pertain to individuals, single proprietorships and partnerships. The Social Security Tax Law will also be considered as a phase of this course. In addition to studying the Internal Revenue Code in connection with the above topics, problems will be considered which involve the use of the different forms that are necessary in tax accounting. The case method is utilized in the study of this subject.

Bus 455 Auditing **3 cr.**

Prerequisite: Bus 353.

A general review of the qualifications, duties, responsibilities, and professional ethics of auditors. A study of auditing theory and the practical application of auditing standards and procedures to the verification of accounts and financial statements; working papers; and audit reports.

BUSINESS EDUCATION DEPARTMENT

JAMES K. STONER, Chairman

Required Courses For All Business Education Students

Bus 101 Business Organization and Management
(see description on page 202) **3 cr.**

BE 111 Foundations of Mathematics (Business) **3 cr.**

This is a review of the fundamental processes with emphasis on speed and accuracy through adequate drill and practical application in the handling of the fundamental business operations. Topics considered which especially concern business are the 60-day 6 per cent method of computing interest; compound interest; bank, cash, and trade discounts; and partial payments.

Bus 131 Principles of Typewriting
(see description on page 202) **2 cr.**

Bus 132 Intermediate Typewriting
(see description on page 202) **2 cr.**

Prerequisite: Bus 131.

BE 212 Business Mathematics II **3 cr.**

Prerequisite: BE 111.

The purpose of this course is to teach students to apply principles of business mathematics with speed and accuracy in solving advanced problems encountered by the businessman and the consumer. The mathematics of production, marketing, accounting, finance, and management correlate with the accounting courses.

Bus 221 Introduction to Accounting
(see description on page 203) **3 cr.**

Bus 235 Business Law I **(see description on page 203)** **3 cr.**

Bus 251 Intermediate Accounting
(see description on page 203) **3 cr.**

Prerequisite: Bus 221 and a "C" average in BE 111, BE 212, and English.

Bus 271 Advanced Typewriting
(see description on page 204) **2 cr.**
Prerequisite: Bus 132.

BE 311 Methods of Teaching Business Courses **3 cr.**
This course includes methods of teaching general business courses, as well as shorthand, typewriting, and bookkeeping. Unit plans, demonstrations, and lesson planning are emphasized. Aims, techniques, and procedures of teaching, grade placement of subjects and classroom management are considered items of the course. All courses in the student's major area along with the two psychology courses must have been cleared before this course is taken.

BE 312 Evaluative Techniques in Business Courses **2 cr.**
Prerequisite: BE 311.
This course includes the construction, administration, scoring, treatment, and grading of various type tests. The analysis of test results, remedial teaching and retesting, the evaluation of tests, all tied together in the psychological foundation of good methods as they function in the field of Business Education.

Bus 321 Business Communications
(see description on page 204) **3 cr.**
Prerequisite: "C" average in Eng 101 and 102.

Bus 331 Sales and Retailing (see description on page 204) **3 cr.**

Bus 335 Office Machines (see description on page 204) **2 cr.**

Bus 336 Business Law II (see description on page 204) **3 cr.**
Prerequisite: Bus 235.

Bus 339 Business Data Processing
(see description on page 205) **3 cr.**

Courses Required in the Stenographic Sequence

Bus 261 Shorthand Principles
(see description on page 203) **3 cr.**

Bus 262 Shorthand Dictation
(see description on page 203) **3 cr.**
(see description on page) **3 cr.**
Prerequisite: Bus 261.

Bus 363 Transcription (see description on page 205) **3 cr.**
Prerequisite: Bus 262.

Bus 364 Secretarial Office Practice
(see description on page 205) **3 cr.**
Prerequisite: Bus 363.

Courses Required in the Accounting Sequence

Bus 352 Corporate Accounting
(see description on page 205) **3 cr.**
Prerequisite: Bus 251.

Bus 353 Cost Accounting (see description on page 205) **3 cr.**
Prerequisite: Bus 352.

Bus 454 Federal Taxes (see description on page 205) **3 cr.**
Prerequisite: Bus 352.

Courses Required in the Retailing Sequence

Bus 251 Intermediate Accounting
(see description on page 203) **3 cr.**

Bus 332 Retail Management
(see description on page 204) **3 cr.**
Prerequisites: Bus 331, or Bus 333, Bus 233.

BE 433 Retail Practice **6 cr.**
Prerequisite: Bus 332.

This is a practical course of cooperative part-time training in the retail establishments of Indiana. The student spends a minimum of 15 clock hours per week for a semester in actual retail work at which time he puts into practice the theories of retailing studied in previous courses. This course may be taken by the student in or near his home town during the summer term by special arrangement and provided the distance is no greater than sixty miles from Indiana. Each of these plans is under the close supervision of store officials and the university.

Courses Required in the Data Processing Sequence

Math 101 Foundation of Mathematics (Computer)
(see description on page 284) **3 cr.**

Bus 339 Business Data Processing
(see description on page 205) **3 cr.**

Math 461 Computer Math II
(see description on page 289) **3 cr.**

Bus 439 Business Information Systems **3 cr.**

This course orientates the student in the philosophy and concepts of business information systems. Management planning, and organization objectives develop the management information system and its sub-systems. Information theory, data collection and editing redundancy, source document design, report form designing, file organization and maintenance, and data reduction techniques will be developed. The areas of problem definition, information economics, information management, flow charting, truth table testing, and documentation will be included.

Bus 352 Corporate Accounting
(see description on page 205) **3 cr.**

Bus 454 Federal Taxes (see description on page 205) **3 cr.**
Prerequisite: Bus 352.

SPECIAL ELECTIVES

Bus 455 Auditing (see description on page 206) **3 cr.**
Prerequisite: Bus 353.

BE 342 Consumer Economics **3 cr.**
Problems of production, distribution, merchandising, and buying are studied. Intelligent consumership is stressed throuhgout all aspects of the course. Importance is placed upon maximum satisfaction from goods and services consumed by the individual.

Some Business Management courses may be selected as electives.

GENERAL ELECTIVE

BE 371 Personal Typewriting and Duplicating **1 cr.**
This course may be taken as an elective by upper classmen other than Business Education Department students and Office Management students in the Business Management Department. Emphasis is placed on the development of correct techniques in typewriting. The student is introduced to simple tabulations and the typing of term papers, themes, and manuscripts. He learns how to prepare masters and stencils for use on the various duplicating machines.

DISTRIBUTIVE EDUCATION DEPARTMENT

JAMES K. STONER, Teacher-Educator

Required Courses For All Distributive Education Students

Bus 101 Business Organization and Management
(see description on page 202) **3 cr.**

Bus 131 Principles of Typewriting
(see description on page 202) **2 cr.**

BE 111 Foundations of Mathematics (Business)
(see description on page 206) **3 cr.**

Bus 132 Intermediate Typewriting
(see description on page 206) **2 cr.**
Prerequisite: Bus 131.

BE 212 Business Mathematics II
(see description on page 206) **3 cr.**
Prerequisite: BE 111.

Bus 233 Marketing (see description on page 203) 3 cr.

Bus 221 Introduction to Accounting
(see description on page 203) 3 cr.

Bus 235 Business Law I (see description on page) 3 cr.

Bus 251 Intermediate Accounting
(see description on page 203) 3 cr.
Prerequisite: Bus 221 and a "C" average in BE 111, BE 212, and English.

Bus 271 Advanced Typewriting
(see description on page 204) 2 cr.
Prerequisite: Bus 132.

Bus 332 Retail Management
(see description on page 204) 3 cr.
Prerequisite: Bus 233, or Bus 331, or Bus 333.

Bus 321 Business Communications
(see description on page 204) 3 cr.
Prerequisite: "C" average in Eng 101 and 102.

Bus 335 Business Machines (see description on page 204) 2 cr.

Bus 336 Business Law II (see description on page 204) 3 cr.

Bus 339 Business Data Processing
(see description on page 205) 3 cr.

Bus 333 Principles of Selling
(see description on page 204) 3 cr.
Prerequisite: Bus 332.

***DE 310 Principles of Distributive Education** 3 cr.
The purpose of this course is to acquaint prospective teacher-coordinators with the objectives of distributive education and with the details and problems of organizing, administering, and supervising a complete cooperative program. The course will be concerned with the organization and coordination of vocational education programs and the operation of an Advisory Committee.

***DE 313 Methods of Teaching Courses in**
Distributive Education 3 cr.
The purpose of this course is to acquaint students with the basic principles of teaching the subjects in this area as well as the specific methods of presentation. Students will prepare unit plans, lesson plans, demonstration aids, and evaluative techniques.

DE 434 Supervised Work Experience and Seminar
in Distributive Education 6 cr.
Prerequisite: Bus 333.

Students will gain supervised work experience in selected business establishments operating in the field of distribution. This work experience will be conducted under the guidance of competent store personnel and the college supervisor. As part of this program, the students will attend weekly evening seminars in which discussions will center on daily problems. The trainees will be required to submit regular progress reports.

*Note: Admission to professional courses in DE is subject to approval by a faculty committee.

BUSINESS MANAGEMENT DEPARTMENT

CHARLES L. COOPER, Chairman

Required Courses For All Business Management Students

Bus 101 Business Organization and Management
(see description on page 202) **3 cr.**

BM 111 Foundations of Math (Management) **3 cr.**

This course is designed to provide a broad survey of the fundamental processes of mathematics as applied to business. Emphasis will be placed on the principles of solving business problems by the use of mathematics. Specific areas of concentration include: percentage, interest, discount, annuities, valuation of stocks and bonds, sinking funds, amortization plans, factoring, depreciation, pricing, taxes, insurance, and valuation.

BM 201 Personnel Management **3 cr.**

Prerequisite: Bus 101.

The fundamental principles involved in maintaining harmonious human relations at all levels of a business enterprise form the nucleus of this course. The basic elements involved in planning, organization, directing, and controlling personnel will be developed. Major topics included are the selection, training, evaluation, motivation, and remuneration of employees.

BM 215 Business Statistics **3 cr.**

Prerequisites: BM 111, Math 362.

The major objective of this course is the application of statistical methods which are useful in guiding business decisions. Emphasis will be placed upon such statistical techniques as measures of central tendency, measures of dispersion, measure of relationship, sampling, and index numbers.

Bus 221 Introduction to Accounting
(see description on page 203) **3 cr.**

Prerequisite: "C" average in BM 111 and English 101 and 102.

Bus 233 Marketing **(see description on page 203)** **3 cr.**

Bus 235 Business Law I **(see description on page 203)** **3 cr.**

Bus 251 Intermediate Accounting **(see description on page 203)** **3 cr.**
Prerequisite: Bus 221 with not less than "C" grade.

Bus 321 Business Communications **(see description on page 204)** **3 cr.**
Prerequisite: "C" average in Eng 101 and 102.

Bus 336 Business Law II **(see description on page 204)** **3 cr.**
Prerequisite: Bus 235.

Bus 339 Business Data Processing **(see description on page 205)** **3 cr.**

Courses Required in the Accounting Sequence

BM 241 Finance **3 cr.**

A study of the financial structures of the various types of business organizations. The methods of securing and managing funds on a short-term, intermediate-term, and long-term basis when financing their inception and their operations. An analysis of fixed and working capital requirements.

Bus 352 Corporate Accounting **(see description on page 205)** **3 cr.**
Prerequisite: Bus 251 with acceptable grade.

Bus 353 Cost Accounting **(see description on page 205)** **3 cr.**
Prerequisite: Bus 352 and "B" average in accounting courses.

BM 451 Advanced Principles of Accounting **3 cr.**
Prerequisite: Bus 353.

A study of accounting problems of a specialized nature including the application of funds statement, consignments, installment sales, statement of affairs, receivership accounts, agency and branch accounting, corporate combinations, and consolidated statements.

Bus 454 Federal Taxes **(see description on page 205)** **3 cr.**
Prerequisite: BM 451.

Bus 455 Auditing **(see description on page 206)** **3 cr.**
Prerequisite: BM 451.

Electives **(see recommended electives for Business Management students on page 215)** **18 cr.**

Courses Required in the Systems Analyst Sequence

Math 101 Foundations of Math (Comp) **(see description on page 284)** **3 cr.**

Bus 352 Corporate Accounting
(see description on page 205) **3 cr.**
Prerequisite: Bus 251 with acceptable grade.

BM 241 Finance (see description above) **3 cr.**

Math 461 Computer Math II
(see description on page 289) **3 cr.**

BM 340 Business Systems Technology **3 cr.**
Prerequisites: Math 101 (Comp), Bus 339 and Bus 439.

An extensive study of computer technology. The data storage capabilities of the data cell, drum, thin film, paper tape, core storage and magnetic tape are covered. The file organization techniques of sequential, indexed sequential and direct access as they affect business systems design are discussed. This course analyzes characteristics of full operating magnetic tape and disk operating systems. It reviews the functions of the background and foreground programs, job cards, and linkage editor. Library programs, utility programs, multiprogramming, multi-processing and time sharing systems are reviewed.

BM 342 Business Problem Application I **3 cr.**
Prerequisites: Math 101 (Comp), Bus 339, Math 461, Bus 439.

Business problems will be solved using remote terminals as well as batch processing with the Computer Center's I.B.M. 360. The assembler language will be utilized following problems in general accounting, marketing, etc. Projects will be developed in probablistic forecasting of income statements, balance sheets and cash flow statements, manipulation of different depreciation methods to establish which is "best" under a given set of assumptions; devising and testing mathematical models, production planning simulation, and capital budgeting.

Bus 439 Business Information Systems
(see description on page 208) **3 cr.**

BM 441 Business Problem Programming **3 cr.**
Prerequisites: Math 101 (Comp), Bus 339, Math 461, Bus 439, BM 340, and BM 342.

This course is a combination of computer programming and systems analysis techniques in business problem definition and solution. Problems will be analyzed, programmed, and made operational in the following functional areas: payroll, material and labor distribution, accounts receivable and payable, general accounting, finance, marketing, sales, production, purchasing, and personnel.

BM 442 Business Problem Application II **3 cr.**
Prerequisites: Math 101 (Comp), Bus 339, Math 461, Bus 439, BM 340, and BM 342.

This course discusses the more recent developments in computer technology and its effect on business systems. The

determination of data bases with their specific file organization needs as related to the hardware capabilities are studied. The capabilities of remote stations and time sharing computing needs are related. Multi-programming, multi-processing, real time, and time slicing techniques will be covered as they effect the integrated and coordinated total system, accounting system, and business control system.

BM 443 Business Systems Analysis I **3 cr.**

Prerequisites: Math 101 (Comp), Bus 339, Math 461, Bus 439, BM 340, and BM 342.

A thorough study will be made of the techniques used in Systems Analysis. Systems definition of problem orientated business systems, PERT and flow charting of the problem, feasability, quantitative, and evaluative techniques as related to the sub-system, systems synthesis, systems simulation, and implementation are fully covered. The dynamics of an open-ended business system as related to short and long term objectives are determined.

BM 444 Business Systems Analysis II **3 cr.**

Prerequisites: BM 441, BM 442, and BM 443.

This course will require that the student complete assignments in the analysis of business problems, preparation of flow charts, and writing of computer programs. The programs must be tested and made operational with raw detail and problem information. Case studies will cover payroll, inventory, production, and sales analysis.

BM 445 Quantitative Methods—Operations Research **3 cr.**

Prerequisites: BM 441, BM 442, and BM 443.

This course develops the computer programs necessary for business decision making techniques as decision tables, truth tables, decision matrix, decision making under certainty and uncertainty, sampling techniques, operations research, inventory models, systems models, simulation, queuing models, linear programming, matrix algebra, and game theory. Intensive analysis of the decision making process: diagnosing problems; evaluation of alternative solutions, projection of results and the choice of alternatives.

Courses Required in the Office Management Sequence

Bus 131 Principles of Typewriting
(see description on page 202) **0 cr.**

Bus 132 Intermediate Typewriting
(see description on page 202) **2 cr.**
Prerequisite: Bus 131.

Bus 271 Advanced Typewriting
(see description on page 204) **2 cr.**
Prerequisite: Bus 132.

Bus 261 Shorthand Theory (see description on page 203) 3 cr.

Bus 262 Shorthand Dictation
(see description on page 203) 3 cr.
Prerequisite: Bus 261.

Bus 335 Office Machines (see description on page 204) 2 cr.

Bus 363 Transcription (see description on page 205) 3 cr.
Prerequisite: Bus 262.

Bus 364 Secretarial Office Practice
(see description on page 205) 3 cr.
Prerequisite: Bus 363.

BM 470 Office Management 3 cr.
Prerequisite: Senior standing.
A study of the duties and responsibilities of the office manager; the principles of practical office management and their application in controlling office costs; flow of work; purchase and use of office equipment; selection, training, and supervision of office employees; and report writing.

Electives (see recommended electives for Business Management students below) 15 cr.

Required Courses in the General Business Sequence

BM 241 Finance (see description on page 212) 3 cr.

Bus 352 Corporate Accounting
(see description on page 212) 3 cr.
Prerequisite: Bus 251.

Bus 454 Federal Taxes (see description on page 205) 3 cr.
Prerequisite: Bus 352.

Electives (see recommended electives for Business Management students below) 27 cr.

RECOMMENDED ELECTIVES FOR BUSINESS MANAGEMENT STUDENTS

SCHOOL OF BUSINESS COURSES:

Bus 331 Sales and Retailing
(see description on page 204) 3 cr.

Bus 332 Retail Management (see description on page 204) 3 cr.
Prerequisites: Bus 251 and 331.

Bus 335 Office Machines (see description on page 204) 2 cr.

Bus 333 Principles of Selling
(see description on page 204) 3 cr.

BM 380 Principles of Investments **3 cr.**

The analysis and evaluation of various types of securities and other forms of investment possibilities and a study of the principles of sound investment policies. Factors influencing the general movement of security prices and the return from investments are considered.

BM 381 Principles of Insurance **3 cr.**

The historical development, the fundamental principles, and the social and regulatory environment underlying all forms of insurance—life, property, casualty, fire, and surety is considered. A comprehensive study of the theory of risk and its application to insurance.

BM 382 Principles of Real Estate **3 cr.**

A study of the regulations, practices, legal aspects and professional ethics of the real estate business, including the areas of financing, advertising, property valuation and appraisal, and selling.

BM 434 Advertising **3 cr.**

An introduction to the principles, practices, advantages, and limitations of advertising, including the purposes, techniques, media, and organization of advertising campaigns. The legal, economic, and social aspects of advertising are also considered.

BM 438 Marketing Research **3 cr.**

The nature, methods, analysis, and application of present day marketing research techniques utilized in the solution of practical marketing problems studied through the use of case material and outside research.

BM 456 Advanced Cost Accounting **3 cr.**

Prerequisite: Bus 353.

The study of the theory, preparation, and use of budgets, production cost standards, and the analysis of cost variances as means of cost controls is emphasized. Direct costing and extensive analysis of various cost control and profit planning programs are also considered.

BM 490 Decision Making In Business **3 cr.**

A case approach to the analytical techniques and concepts necessary in making business decisions concerning marketing, costs, pricing, profits, competition, production, and capital management.

COURSES BY OTHER DEPARTMENTS

(see description in the listing of department offering the course)

ECONOMICS DEPARTMENT:

Econ 321 History of Economic Thought 3 cr.

Econ 340 Economic Development 3 cr.

Econ 345 International Economics 3 cr.

FOREIGN LANGUAGES DEPARTMENT:

151-152 Any Foreign Language 6 cr.

Other electives are available with the approval of departmental chairman.

CHEMISTRY DEPARTMENT

PAUL R. WUNZ, JR., Chairman

CARL W. BORDAS
EDWARD N. BROWN
NICHOLAS D. CHRISTODOULEAS
EDWARD G. COLEMAN
JOSEPH J. COSTA
RICHARD HARTLINE
WILLIAM I. HEARD
RICHARD KOLACZKOWSKI
RONALD L. MARKS
DONALD R. McKELVY
ROBERT N. MOORE
ROBERT PATSIGA
JOHN H. SCROXTON
AUGUSTA SYTY
STANFORD L. TACKETT
GENO ZAMBOTTI
DONALD N. ZIMMERMAN

Chemistry Courses

Chem 101-102 Home Economics Chemistry I and II **6 cr.**

This course is open only to those students who are majoring in home economics and school food service management. The first semester covers the principles of general inorganic chemistry. The second semester covers those topics of organic chemistry and biochemistry which would be most important for the student of home economics. Three hours lecture and two hours laboratory per week.

Chem 103 Chemistry for Nurses **3 cr.**

This course is open only to students in the nurses' training program connected with the hospital. It is a one semester course, designed to survey the areas of inorganic, organic and biochemistry, particularly those topics which are related to the fields of medicine, nursing, and health. Three hours lecture and two hours laboratory per week.

Chem 111-112 General Chemistry I and II **8 cr.**

General Chemistry I includes the study of the nature of matter, atomic structure, periodic law, chemical bond, stoichiometry, gases, liquids, solids and solutions. General Chemistry II includes chemical kinetics, chemical equilibrium, electrical energy and chemical change, oxidation and reduction, descriptive chemistry and organic chemistry. The laboratory work illustrates fundamental principles; during the first semester it is semiquantitative in nature, and the second semester is devoted to qualitative analysis. Three hours lecture and three hours laboratory per week.

Chem 201 Industrial Chemistry **3 cr.**

Prerequisites: General Chemistry I and II.

This course is a study of the applications of chemistry and science to the industries of Western Pennsylvania for the science teacher. The course consists of lectures, laboratory work, and field trips to representative industries. Two hours lecture and three hours laboratory per week.

Chem 231-232 Organic Chemistry I and II **8 cr.**

Prerequisites: General Chemistry I and II.

A study of the compounds of carbon with special emphasis being placed on the structure and reactions of the more important classes of carbon compounds. The laboratory work involves the preparation and purification of representative compounds. Three hours lecture and four hours laboratory per week.

Chem 301 Chemistry Seminar **1 cr.**

The seminar is a discussion of current technical literature, reports of students' research projects, and occasional lectures by noted chemists. The course is open to junior and senior chemistry majors or by permission of the instructor. One hour per week.

Chem 303 Glassblowing Techniques **1 cr.**

The course is designed to introduce the science student to the techniques necessary for the construction and modification of scientific glass apparatus. Enrollment limited to junior and senior science majors and others by permission of instructor. One hour instruction with two hours practice at students' convenience per week.

Chem 305-306 New Approaches to Teaching High School Chemistry **4 cr.**

A course designed to acquaint the teacher and prospective teacher with the newer approaches to high school chemistry. One semester would consider the Chemical Bond Approach curriculum and the other semester the Chem Study curriculum. The student must be at least a junior chemistry education major. Arts and Science majors may take the course but will not be given credit towards graduation. The course will also include revisions of these newer approaches to high school chemistry, as well as any course being currently developed in the Secondary Chemistry Curriculum. Every prospective student teacher should plan to take these courses prior to his/her practice teaching experience.

Chem 321 Quantitative Analysis **4 cr.**

Prerequisites: Chem 111 and 112. Lectures, three hours per week; laboratory four hours per week.

The theory and practice of quantitative analysis includes gravimetric and volumetric analysis. Special emphasis is placed on perfecting the student's laboratory technique and application of general chemical knowledge through problem solving.

Chem 322 Instrumental Analysis **4 cr.**

Prerequisite: Chem 321.

This course is designed to instruct the student in Modern Instrumental Methods of Chemical Analysis. The student will

learn the theory behind the instrument, the principles of operation, the interpretation of the data obtained, and the limitations of the methods. Three hours of lecture and four hours of laboratory.

Chem 331 Organic Qualitative Analysis **2 cr.**

Prerequisites: Organic Chemistry I and II (Organic Chemistry II may be taken concurrently).

A course designed to give the student experience in the systematic identification of various classes of organic compounds by both chemical and physical methods. Six hours of laboratory per week.

Chem 333 Organic Mechanisms and Stereochemistry **3 cr.**

Prerequisite: Organic Chemistry I and II.

An advanced undergraduate course in which the study of organic chemistry is approached on the basis of the mechanism by which the reactions occur. Such areas as nucleophilic and electrophilic substitution, addition and elimination reactions, carbanions and carbonium ions and rearrangements will be considered. The stereochemistry of organic compounds will be studied. Three hours lecture per week.

Chem 341 Physical Chemistry I **4 cr.**

Prerequisites: Calculus II and Organic Chemistry I and II.

Classical thermodynamics, thermochemistry, gases, solutions and other topics as time permits. Three hours lecture and four hours laboratory per week.

Chem 342 Physical Chemistry II **4 cr.**

Prerequisite: Physical Chemistry I.

Application of classical thermodynamics to the study of phase equilibria, kinetics, diffusion, and other topics as time permits. Introduction to statistical thermodynamics and quantum physics. Three hours lecture and four hours laboratory per week.

Chem 351 Biochemistry **3 cr.**

Prerequisite: Organic Chemistry I.

A study of the chemistry of carbohydrates, lipids, proteins, minerals, vitamins, and hormones and the biological functions of each. Two hours lecture and three hours laboratory per week.

Chem 355 Biochemistry and Nutrition **3 cr.**

Prerequisite: Chem 101-102.

This course is designed for the Home Economics major and is a study of the chemistry and biological function of biologically active compounds with respect to nutritional requirements. Three hours lecture per week.

Chem 411 Inorganic Chemistry **3 cr.**

Prerequisite: Organic Chemistry I.

This course is designed to give the student an understanding of the advanced theory of atomic structure, chemical bonding, acids and bases, coordination compounds, and selected topics. Three hours lecture per week.

Chem 412 Inorganic Preparations **3 cr.**

Prerequisite: Organic Chemistry I.

Lectures will include a discussion of the descriptive chemistry of the elements according to their periodicity. The laboratory will be an investigation of the synthesis, purification, identification, and characterization of inorganic substances. One hour lecture and six hours laboratory per week.

Chem 421 Advanced Instrumental Analysis **3 cr.**

Prerequisite: Instrumental Analysis.

A study of modern chemical analysis using advanced instrumental techniques. The areas of X-ray analysis, spectroscopy, gas chromatography and electroanalysis will be featured. Emphasis will be placed on theory, principles of operation, capabilities, and limitations of the advanced analytical instruments used. One hour lecture and six hours laboratory.

Chem 441 Advanced Physical Chemistry **3 cr.**

The course will include statistical thermodynamics, theoretical kinetics, and other topics of current interest. Three hours lecture.

Chem 498 Problems in Chemistry **1 to 2 cr.**

This course includes laboratory work, library reading, and conferences with a staff member. The purpose of the course is to give the student experience in the investigation of selected problems in chemistry. The credit is to be arranged.

Sci 105 Physical Science I — See course description in Physics Dept. **4 cr.**

Sci 106 Physical Science II **4 cr.**

A course designed to fulfill the University science requirement for non-science majors. This semester will survey the fields of chemistry and geology. Physical Science I (see Physics Department) is not a prerequisite for Physical Science II and therefore either course may be taken first. Three hours lecture and two hours laboratory.

CRIMINOLOGY DEPARTMENT

HARRY W. MORE, Chairman

STANLEY COHEN
WALLACE R. CROUP
STANLEY S. GOEHRING
WILLIAM HENRY
JOSEPH B. HILL
VANCE C. KENNEDY
JOHN G. MELLEKY
JOHN W. POSTLEWAIT
THEODORE J. RAYNOR
WILLIAM SHANE
JOHN B. SIMONS
CLIFFORD J. WILLIAMS, JR.

COURSE DESCRIPTIONS

Crmn 101 General Administration of Justice **3 cr.**
Administration of criminal justice in the United States. Deals with the role of the police, courts, and the correctional process.

Crmn 102 Criminology **3 cr.**
General survey of the nature and causes of crime and its prevention and treatment.

Crmn 201 Police Administration I **3 cr.**
An analysis of organizational structure, administrative practices and operating procedures of law enforcement agencies.

Crmn 202 Police Administration II **3 cr.**
Continuation of Police Administration I with special emphasis on the staff functions such as records, communications, training, personnel administration and finance.

Crmn 301 Criminal Law I **3 cr.**
A formal study of specific crimes as found in common law and in state and local codes.

Crmn 302 Criminal Law II **3 cr.**
A detailed study of the legal procedures through which the accused passes. Laws of arrest, search and seizure with a discussion of important case law. An analysis of the safeguards established for the protection of individual liberties, especially as found in the application of rules governing the introduction and use of information in formalized legal proceedings.

Crmn 310 Criminal Investigation **3 cr.**
The theory and practice of investigation. A discussion of the various types of information obtainable from persons and things. The application of investigative theory to crime and accidents.

Crmn 311 Criminalistics **3 cr.**
The application of scientific crime detection methods. Emphasis on the collection, preservation, interpretation of physical evidence found in connection with a crime. Two hours lecture and three hours laboratory per week.

Crmn 330 Planning and Research **3 cr.**
The role of planning and research in contemporary law enforcement establishment. Analysis of the planning process and the nature of planning with an emphasis in planning for special events and situations.

Crmn 340 Crime Prevention **3 cr.**
Organization and function of crime prevention agencies; police techniques in the prevention of crime; case work; role of the policewoman; community resources in preventing crime.

Crmn 350 Techniques of Interviewing **3 cr.**
Consideration of the nature, methods, and principles of interviewing. Emphasis on role playing in interviewing situations.

Crmn 360 Commercial and Industrial Security **3 cr.**
Plant protection and industrial security; merchandising safety and security; credit and insurance investigative procedures.

Crmn 370 Community Relations **3 cr.**
The role of law enforcement agencies in modern day society. Community relations units; human relations resources; civil rights and professionalism in law enforcement.

Crmn 410 Questioned Document Analysis **3 cr.**
Evaluation and identification of questioned documents; admissibility as evidence, preparation and presentation in court. Two hours lecture and three hours laboratory per week.

Crmn 411 Advanced Criminalistics **3 cr.**
Ballistics, serology, narcotics, poisons, firearms identification, chromatography, alcohol tests, and hair identification. Two hours lecture and three hours laboratory per week.

Crmn 415 Supervision in the Administration of Justice **3 cr.**
A consideration of the supervisory problems in the field of administration of justice. Emphasis on such topics as leadership motivation, morale, discipline, public relations, communications, decision-making, and the training functions.

Crmn 430 Comparative Study of Justice **3 cr.**
Comparison of the American system of administration of justice with those of other nations to include developed and underdeveloped countries.

Crmn 431 Etiology of Delinquent Behavior **3 cr.**
An analysis of the aberrant behavior of children and youth in terms of modern behavioral sciences. Personality and social factors are examined with the view toward developing prevention and control procedures. Offered during the summer. (By appointment only.)

Crmn 432 Treatment and Control of Delinquency **3 cr.**
An analysis of juvenile court procedures, juvenile probation, juvenile institutions and juvenile parole in the treatment and control of delinquency. Offered during the summer. (By appointment only.)

Crmn 440 Institutional Treatment of the Offender **3 cr.**
Modern philosophy and methods in the treatment of adult criminals and juvenile delinquents in correctional institutions.

Crmn 445 Non-institutional Treatment of the Offender **3 cr.**
Analysis of the principles and practices in probation and parole. Case method. Techniques of supervision.

Crmn 490 Crime and Modern Society **3 cr.**
An analysis of the nature and extent of crime at the state, national, and international levels of government. Consideration of special problems in metropolitan areas, organized crime, the professional criminal and white collar crime. Crime control in a democratic society.

Crmn 495 Seminar in Administration of Justice **3 cr.**
A study of problems in the administration of justice. Reports based upon original investigation; reviews of recent books and periodical literature; topics of current interest.

Crmn 497 Internship **6 cr.**
A practicum designed to broaden the educational experience of students through appropriate observational work assignments with governmental agencies and private firms. Offered during the summer. (By appointment only.)

Crmn 499 Special Problems **1-4 cr.**
Individual research under the direction of the staff. This course may be taken more than once for credit. (By appointment only.)

COUNSELING AND GUIDANCE DEPARTMENT

GEORGE L. SPINELLI, Chairman

ROBERT H. SAYLOR
JAMES C. WILSON
EDWARD D. SHAFFER
EVERETT J. PESCI

The courses listed below are available, as electives and as offered, to undergraduate students in Education, in-service teachers, and other school personnel seeking a broad understanding of helping roles in a school program of guidance services. These courses are not designed for those who would aspire to become school counselors. For information on counselor education programs see the current Graduate School Bulletin.

COURSE DESCRIPTIONS

CnGd 251 Fundamentals of Guidance **3 cr.**

This course is an elective for undergraduate students in Education and aims to provide a broad understanding of the role of the classroom teacher in a school guidance program.

CnGd 252 Guidance in School Settings **3 cr.**

This is a survey course in guidance designed as an elective for in-service teachers and school personnel other than counselors.

CnGd 253 Counseling in School Settings **3 cr.**

This is an elective course designed to provide in-service teachers and school personnel, other than counselors, a basic understanding of the knowledge, information, and skills appropriate to counseling with individuals and groups.

DEPARTMENT OF ECONOMICS

DONALD WALKER, Chairman

JOHN P. BARRADOS
JOHN W. CROSS
WAYNE J. DAVIS
ALEXANDER C. GARVIN
HARRY G. HOLT
WILLIS J. RICHARD
SARJIT SINGH
*ROBERT C. VOWELS
STEPHEN WARE

* On leave of absence.

GENERAL EDUCATION COURSE

Econ 101 Basic Economics **3 cr.**
(Should not be programmed by students majoring in any of the Social Sciences or in either Business Management or Business Education. Acceptable for others in lieu of Econ 121 only upon achievement of 3.0 grade or better.)

Major characteristics of the American economy: nature of capitalism; contrasts with other economic systems; role of the price system; national income; modern employment theory; money and banking; basic market structures; economics of resource use; current domestic and international problem areas.

OTHER DEPARTMENTAL COURSES

Econ 121 Principles of Economics I **3 cr.**
(Foundation course for those planning further course work in economics and required of all economics majors and minors.)

Nature and methodology of economics; mixed capitalism and the market economy; national income; full employment theory, including the economics of fiscal policy; money, banking, and the Federal Reserve System; economic growth.

Econ 122 Principles of Economics II **3 cr.**
Prerequisite: Econ 121; sequel to Econ 121; required of all economic majors and minors; substitute for earlier Econ 241. This course is recommended (but not required) for many economics electives; for prerequisites to specific electives, see individual course descriptions below.

Economics of the firm; theory of consumer demand; supply, costs, and resource allocation; the basic market models; price and output determination. Current social imbalances, the labor sector, foreign trade and the balance of payments, foreign economics.

Econ 221 Macroeconomic Analysis **3 cr.**

Prerequisites: Econ 121 or Econ 101 if accepted in substitution, and Econ 122.

Income and employment analysis; national income accounts and theory; classical, Keynesian, and post-Keynesian models; investment, growth, and inflation theory; the role of government in our economy.

Econ 222 Microeconomic Analysis **3 cr.**

Prerequisites: Econ 121 or Econ 101 if accepted in substitution, and Econ 122.

Price, output, and distribution theory analyzed by market structure, with particular emphasis upon monopolistic competition and oligopoly; resource allocation; general equilibrium analysis; consumer behavior; applications to current problems of economic policy.

Econ 305 Quantitative Economic Methods I **3 cr.**

Prerequisites: Econ 121 and 122; Math 101 or 152, or permission of the instructor.

The application of quantitative methods to economic theory. The first semester will include the following: functions, limits, derivatives, integration, maxima & minima, mean values, and partial derivatives.

Econ 306 Quantitative Economic Methods II **3 cr.**

Prerequisite: Econ 205.

Derivation and application of linear algebra to quantitative economics. The topics covered will include sets, functions, vector analysis, linear transformations, matrices, determinants, linear difference and differential equations.

Econ 321 History of Economic Thought **3 cr.**

Prerequisite: Econ 121, or Econ 101 if accepted in substitution.

Contributions of the more prominent early philosophers through to the modern economists, and of the major schools of economic thought: Mercantilists, Physiocrats, Classicists, Socialists, Marginalists, Institutionalists, Neo-Classicists, Keynesians, Post-Keynesians.

Econ 325 Money, Banking, and Monetary Policy **3 cr.**

Prerequisite: Econ 121, or Econ 101 if accepted in substitution.

Organization, operation, and economic significance of American monetary institutions; commercial banks and the Federal System; monetary theory and policy; the mechanism of international payments.

Econ 330 Industrial and Labor Relations **3 cr.**

Prerequisites: Econ 121, or Econ 101 if accepted in substitution, and Econ 122.

Worker-management-government relationships in the industrialized segment of the American economy: history, struc-

ture, and operations of trade unions and employer organizations; major federal labor sector legislation; collective bargaining theory; wage determination; current labor problems.

Econ 335 Public Finance **3 cr.**

Prerequisites: Econ 121, or Econ 101 if accepted in substitution, and Econ 122.

Taxation and expenditure theory at federal, state, and local government levels; federal budget and debt considerations; public sector impact upon the economy; intergovernmental fiscal relations.

Econ 340 Economics of Underdeveloped Countries **3 cr.**

Prerequisite: Econ 121, or Econ 101 if accepted in substitution.

The principles of economic development and their application to the performance and growth of economically poor countries.

Econ 341 Economic Development of the United States **3 cr.**

Prerequisites: Econ 121, or Econ 101 if accepted in substitution, and Hist 104.

Examination of the main patterns of America's economic growth since the end of the eighteenth century; emphasizes economic development as a laboratory for economic analysis.

Econ 342 Economic Development of Modern Europe **3 cr.**

Prerequisites: Econ 121, or Econ 101 if accepted in substitution, and Hist 102.

Study of the dynamic forces which have contributed to the development of modern Europe; industrial revolution in England, industrialization on the continent; impact of Europe on the world economy.

Econ 343 Economics of Population and Manpower **3 cr.**

Prerequisites: Econ 121, or Econ 101 if accepted in substitution, and Math 362 or permission of the instructor.

Inquiry into the economic, demographic, and related factors affecting the growth, structure, and distribution of an economy's population; historical and locational variations in manpower utilization rates; examination of the interrelationships among population, manpower utilization, and economic progress.

Econ 345 International Economics **3 cr.**

Prerequisite: Econ 121, or Econ 101 if accepted in substitution.

Theory and practice in international trade relationships of the United States and other major industrialized countries to the world economy as reflected in their balance of payments; trade barriers; international economic organizations; stabilizations and growth in world finance.

Econ 350 Comparative Economic Systems **3 cr.**

Prerequisite: Econ 121, or Econ 101 if accepted in substitution.

Capitalism, socialism, communism, and fascism subjected to economic analysis: their principles, practices, institutions and philosophies.

Econ 355 Introduction to Econometrics **4 cr.**

Prerequisites: Econ 121 and 122, Math 362.

The application of modern statistical methods to economic theory formulated in mathematical terms: elementary formulation; the nature of econometric models; demand, production, and cost analysis; income distribution, growth, and trade cycle models; macroeconomic applications.

Econ 360 Seminar, Special Studies in Economics
(Restricted to economics majors of senior standing.) **3 cr.**

An intensive analysis of selected contemporary economic issues or problems.

Econ 390 Honors in Economics **3 cr.**

(An honors course open only to students who have successfully completed a minimum of twelve (12) hours in economics and who hold a 3.0 (B) grade average or better in the Social Sciences.)

Readings, conferences, and reports arranged for students who have demonstrated proficiency in the science of economics. Research work may be directed toward, but is not limited to, advanced study in any of the economics electives areas plus agricultural economics, business fluctuations, economics education, economic forecasting, economic planning, national security economics, social insurance, and current economics literature.

EDUCATIONAL PSYCHOLOGY DEPARTMENT

ANTHONY A. ANGELONI, Chairman

WILLIAM M. BAHN
WILLIAM E. CUTLER
LEONARD B. DEFABO
JOHN J. HAYS
ISABEL T. HELMRICH
OLIVER W. HELMRICH
CHARLES LEACH
WILLIAM J. LEVENTRY
BRUCE A. MEADOWCROFT
MILDRED SHANK
JAY M. SMITH

PROFESSIONAL EDUCATION COURSES

Ed Psy 302 Educational Psychology
(Required of all Education Majors) **3 cr.**

Prerequisite: General Psychology.

A course designed to promote a better understanding of the principles of psychology that govern human behavior, with particular emphasis on their relation to the learning process, the learning situation, and the learner himself. The significance of evaluation, individual variation, group dynamics, and child growth and development will be stressed throughout the course.

Ed Psy 305 Evaluation Methods **Fall-Spring 2 cr.**
Summer 3 cr.

Prerequisite: General Psychology.

This course includes elementary statistics concerning .graphs, sampling, frequency distribution, measures of central tendency and dispersion, and the normal curve. The course emphasizes the use and construction of tests made by the teacher and the systems of reporting pupil growth and development.

Ed Psy 362 Developmental Reading **3 cr.**

This course, planned especially for the teacher of secondary students, will assist the participating student to understand the developmental reading process. The study will include such areas as objectives, background knowledge and understandings of the reading process, an overview of the elementary program, the pre-adolescent and the adolescent and their needs in reading, finding and providing for instructional needs, and special problems. Specific helps, experiences, techniques, and materials will be considered. It is suggested that the course be taken by secondary students just before the student teaching experience.

GENERAL ELECTIVES OR FOR PERMANENT CERTIFICATION

These courses satisfy post-graduate certification requirements and serve as electives for undergraduate students of teacher education.

Ed Psy 372 The Psychology of Childhood Education **3 cr.**

Prerequisites: General Psychology or Educational Psychology.

This course is designed to emphasize the relationship which physical, social, emotional and intellectual development have on the theory and practice of childhood and pre-adolescent education.

Ed Psy 373 Adolescent Psychology for Teachers **3 cr.**

Prerequisites: General Psychology or Educational Psychology.

This course is concerned with the study of the significant characteristics and behavior of adolescents with emphasis on developing an understanding of the relationship these factors have for educational and social problems which occur during this period of development.

Ed Psy 376 Study of Problem Behavior **3 cr.**

Prerequisites: General Psychology or Educational Psychology.

This course explores the emotional and social aspects of behavior problems encountered in classroom situations. The assumption that behavior is learned and purposeful forms a basis for study in the course.

Ed Psy 377 Educational Tests and Measurements **3 cr.**

Prerequisites: General Psychology or Educational Psychology.

A course which emphasizes an understanding of the various evaluation instruments with attention being focused on standardized tests. The use and interpretation of information and test results are studied in relation to educational problems which occur in the classroom. The teacher's role in the selection, administration, and interpretation of group tests is emphasized.

Ed Psy 378 Seminar in Problems of Learning **3 cr.**

Prerequisites: General Psychology or Educational Psychology.

This course is intended to help teachers who deal with learning problems in the several basic skill and subject areas in a typical school setting. The course will attempt to develop a rationale for working with children who have learning problems. Emphasis will be placed on actual application of techniques discussed and developed in class.

ELEMENTARY EDUCATION DEPARTMENT

P. D. LOTT, Chairman of Department

LOIS A. ANDERSON
RONALD L. BAKER
DENNIS A. BARTHA
LILLIAN BROOME
ALBERTA R. DORSEY
RALPH M. GLOTT
JOSEPH A. KAZAMEK
ROBERT L. KING
MAY E. KOHLHEPP
JACK KUHNS
LINDA S. LINN
EDWARD R. MOTT
JAMES B. REILLY
VIOLET V. ROCCO
JOANN E. WALTHOUR
GEORGE D. ZEPP

REQUIRED COURSES IN ELEMENTARY EDUCATION

El 211 Music for the Elementary Grades **2 cr.**

The content of this required course for all Elementary Students includes the following: review of music fundamentals, keyboard knowledge, the teacher's voice, care and development of the child voice, problems of the non-singer, rhythmic activities, listening activities, creative activities, rote to note process, special days, and lesson planning. To get practical application of class activities, students will be assigned observations in the Laboratory School. Emphasis is placed on the primary grades.

El 213 Art for Elementary Grades **2 cr.**

The creative growth and development of children are studied. Students are given experiences in the basic art materials and media, as well as opportunity to plan art motivations for children.

Psy 215 Child Development **3 cr.**

This course is designed to enable the teacher to understand and help children. A survey of human development from conception through early adolescence is made in terms of basic scientific data. Developmental growth and behavior are studied and their implications for home, school, and community are considered.

El 221 Children's Literature **3 cr.**

In this course the students acquire a wide acquaintance with children's literature, old and new. Poetry selections, annotated stories, and bibliographies will be assembled. Ways and means to develop, stimulate, and guide children's reading of literature are presented. Principles and techniques of successful story-telling are studied and practiced.

El 222 Teaching of Reading **3 cr.**

This course is given before the first student teaching experience. Emphasis is placed upon methods and materials used in the developmental reading program. Its objective is to provide the student with a general background of knowledge and

techniques for teaching children in the elementary school to read. Students are introduced to the experience, textbook, and individualized approaches to the teaching of reading.

El 312 Teaching of Elementary Science **3 cr.**

Based on the previous work in science, this course takes up the planning and presentation of material suitable to the elementary field. Students are required to perform demonstrations and take part in science activities which illustrate facts or principles taught in the elementary science program. Considerable attention is given to the literature of the elementary science program as well as other aids such as community resources and simple equipment that can be secured for experimentation and other activities.

El 313 Teaching of Math in the Elementary School **3 cr.**

Prerequisite: Math 160 and Math 250.

In this course emphasis will be given to the place of arithmetic in the elementary school and to the recent changes in curriculum and method; to techniques for developing concepts and processes; to recent research in the field of arithmetic; and to books and material helpful to prospective teachers. Observation of master teachers at work will be planned.

El 314 Teaching of Health and Physical Education **2 cr.**

This course includes games, stunts, rhythms, relays, tumbling, dances, and skills suitable for the elementary school child. The teaching of health in the elementary school is emphasized. Methods, materials and lesson planning are a part of the course.

El 411 Teaching of Social Studies **3 cr.**

This course gives an overview of social studies in the elementary school. It includes study of objectives, trends, areas of content, patterns and principles of organization. Emphasis is placed on unification of subject matter and on implication of research in child development for content and methods. Students will have experience in preparing an individual resource unit and in planning, participating in, and evaluating social studies in class. A variety of learning experiences and materials will be used and evaluated.

El 413 Teaching Language Arts **3 cr.**

This course is designed to give the elementary student a knowledge of the latest techniques, methods, and materials in the language arts area. Research and trends are studied. The fields of handwriting, spelling, oral and written communication, and vocabulary development are included.

Ed 422 Professional Practicum Including School Law **2 cr.**

This course includes a series of conferences and related activities planned to prepare students for experiences which

they will meet in teaching. It parallels the student teaching experience in the junior and senior years. Through these planned experiences, students are expected to be able: to know and understand Pennsylvania laws governing education; to discuss adequately problems related to teaching; and to know and use materials of instruction and professional reference reading. A file of materials, required of each elementary student, is used during each student teaching experience and is checked during the senior year.

ELECTIVE COURSES IN ELEMENTARY EDUCATION

El 212 Teaching of Music in the Elementary Grades **3 cr.**

Prerequisite: El 211.

A continuation of skills and understandings as developed in El 211 is treated with emphasis on methods and materials for the upper grades. Additional opportunities for growth in music reading and part singing are provided. Lessons are developed in correlation of music with other areas. Type lessons are taught by students and constructively evaluated by the instructor and the class.

El 214 Teaching Art in Elementary Grades **3 cr.**

This course provides the student with a wide variety of two and three dimensional art experiences with the emphasis on a developmental sequence from simple to more complex variations of a craft. Emphasis is placed on the creative challenges of the art experience.

El 351 Creative Activities in the Elementary School **3 cr.**

This course is planned to provide the student with a wide range of creative experiences in the fields of art, crafts, music, rhythmics, dramatics and games in the elementary school. Stress is placed upon the need to help children in developing their capacities for creative expression in these areas.

El 352 Diagnostic and Remedial Reading **3 cr.**

This course is planned for in-service teachers and students who have done their student teaching. It deals with methods and materials which help children who are retarded in reading ability. Attention is given to recent findings in the areas of reading readiness, word recognition including phonics, comprehension, evaluation, and textbook selection.

El 353 Pre School Education **3 cr.**

Students in this course will be mainly concerned with the five-year-old in kindergarten. Principles and practices of this age group will be studied. Special attention will be given to observations, the kindergarten program and its curriculum, materials, and methods of instruction.

Ed 356 Guidance in Elementary Schools **3 cr.**

This course is designed to give the student an initial understanding of the guidance of young children. Study and discussion center around the child himself—his characteristics, needs, problems, motives, and relations with others — and around the techniques and procedures for identifying, studying, and giving help to children in respect to these facets of personality.

El 451 Teaching of Reading in the Primary Grades

This course is concerned with the teaching of developmental reading, consistent with child growth, in the primary grades.

Methods and techniques for readiness, word perception, comprehension, work-study skills, independent reading in both group and individualized approaches will be studied.

Consideration will be given to the nature of reading, significant research in the field, the curriculum, selection of materials and the use of formal and informal tests.

El 452 Social Studies in the Primary Grades

With El 411, Teaching of Social Studies, as a prerequisite, this course will include a more detailed examination of content, objectives, and resource materials for social studies in kindergarten through third grade. Research problems will be examined and representative units developed.

El 461 Organization of the Elementary School and Its Curriculum **3 cr.**

A study of the organization of the elementary school from the standpoint of curriculum design and development. The role of the teacher will also be examined as it relates to the evaluation, improvement, and development of the elementary school curriculum. Course is especially designed for those who have completed student teaching or are postgraduates.

El 462 Innovations in Elementary Education **3 cr.**

A study of innovations which influence and direct the educational objectives of the modern elementary school and its organization. Particular attention will be given to those educational innovations dealing with curriculum, school organization, and materials of instruction. Course is especially designed for those who have completed student teaching or are postgraduates.

ENGLISH DEPARTMENT

CRAIG SWAUGER, Chairman of Department

BETTY S. ADAMS
EDWARD ANDERSON
MARGARET BECK
WILLIAM BETTS
JEAN BOYER
JESSIE BRIGHT
L. J. BRIGHT
MORRISON BROWN
MARGARET CALDWELL
CAROLINE COMPTON
DAVID COOK
HARRY CRAIG
WILLIAM CRAYCRAFT
*BOB J. CUREY
JOHN DAVIS
DONALD EISEN
ROBERT ENSLEY
WILLIAM FORCE
DONALD FRITZ
GEORGIE ANN FUNK
JAMES GRAY
DOROTHY GOURLEY
WILLIAM GRAYBURN
DANIEL GRUBB
HARRY HALDEMAN
WAYNE HAYWARD
RICHARD HAZLEY
JACKSON HEIMER
RAYMONA HULL
LAWRENCE IANNI
JOSEPH S. KRUPNIK
MERLE LENTZ
DOROTHY LUCKER
CHARLES MAHAN
DONALD McCLURE
LAURABEL MILLER
ANTHONY NANIA
JAMES NIX
MARGARET OMRCANIN
*RICHARD RAY
MAURICE RIDER
ROSALY ROFFMAN
PHYLLIS ROUMM
PHILLIP RUFFNER
GEORGE SEACRIST
FREDERICK SEINFELT
CATHERINE SHAFFER
HELENA SMITH
*GERALD STERN
FORD SWIGART
RAYMOND THOMAS
J. DAVID TRUBY
MARGOT UEHLING
JAMES WADDELL
HELEN WARREN
JOHN WATTA
*KATHRYN WELDY
KENNETH WILSON
DON WOODWORTH
DAVID YOUNG

* Leave of absence.

GENERAL EDUCATION

Both courses required of all students

Eng 101 English I 4 cr.
Eng 102 English II 4 cr.
(Prerequisite: Eng 101)

One course required of all students

Eng 201 Literature I: Tragic Themes in Literature 2 cr.
(Prerequisite: Eng 102)
Eng 301 Literature II: The Literature of Social Criticism 2 cr.
(Prerequisite: Eng 102)

Humanities option (May be substituted for Introduction to Art or Introduction to Music)

Eng 103 Introduction to Theater 3 cr.

The following two courses may be elected as humanities electives in general education

Eng 261 The English Bible As Literature 3 cr.
Eng 271 Modern American Fiction 3 cr.

Eng 101 English I **4 cr.**

English I, a basic required course for all students, should be taken in the first semester of study at Indiana University of Pennsylvania. Seven theme-length expository papers are written during the semester in addition to shorter exercises and a written final examination. The program for the course is based on readings in the nature and history of language, lan-

guage analysis, and problems in rhetoric, in order to develop competence in those language skills necessary for successful college study. Students are encouraged to confer with their instructors throughout the semester about their writing problems. Exemption is not granted from English I for a student who has completed a high school Advanced Placement English course.

Eng 102 English II **4 cr.**

English II, the second required general education English course, may be taken after a student has received a passing grade in English I. Readings in imaginative literature continue the development of language skills begun in English I, with the writing of at least four long papers, including a research exercise based on a literary or other source book. Exemption from English II may be granted on the recommendation of the English I instructor, who will supervise the completion of a research paper by independent study of the exemptee.

Eng 103 Introduction to Theater **3 cr.**

This course explores the place of the theatre in the life of man, with a critical appreciation of the various arts and skills involved. Emphasis is on the creative function of the audience.

Eng 133 Newspaper Reporting **3 cr.**

This course is open to first-year and second-year students in any department who either work or aspire to work on the university newspaper staff. The course includes instruction in writing the news story, preparing copy, interviewing, covering special events and similar reporting activities.

Eng 201 Tragic Themes in Literature **2 cr.**

The aims of this course are twofold: to introduce the student to one of the main thematic preoccupations of western literature, and to stimulate the student's desire to read on his own initiative. The literary works are drawn from the three major genres: poetry, drama, and prose fiction. Not open to English majors.

Eng 211 Classical Literature **3 cr.**

A course for English majors that replaces Eng 201 and 301. The masterpieces studied range from those of ancient Greece to the Middle Ages. English literature and American literature are excluded.

Eng 212 American Literature to 1865 **3 cr.**

This course provides a study of major American writers from colonial times to the Civil War.

Eng 213 Pre-Renaissance **3 cr.**

Beowulf, Chaucer's **Canterbury Tales,** the Middle English lyric, the popular ballad, and the Arthurian romance are studied in this course.

Eng 214 Shakespeare 3 cr.

Shakespeare's development as a poetic dramatist is studied against the background of the Elizabethan stage; the audience, textual problems, language, imagery, and philosophy are examined. A few plays are read in detail and others are assigned for rapid reading. Phonograph recordings of complete plays, and of scenes and speeches by professional actors are used.

Eng 215 The Augustans 3 cr.

By an examination in some detail of the major poems of Dryden and Pope, of the major prose of Swift, Addison and Steele, and of selected works of a few minor writers, this course concerns itself with Augustan concepts of literature and morality.

Eng 216 The Romantic Movement 3 cr.

Basic tenets of Romantic philosophy are examined as they are expressed in the major writings of the period from 1780-1832—poetry, the essay, and fiction. Special attention is given to the aesthetic creed of the Romantic poets and to the means of interpreting and evaluating their poems.

Eng 217 Victorian Literature 3 cr.

Essays, novels, and poetry of the second half of the nineteenth century are read with special consideration of the criticism they offer of political, economics, social, and religious practices and creeds of Victorian England.

Eng 218 The Age of Spenser 3 cr.

This course surveys the non-dramatic literature of the English Renaissance, with particular emphasis on the poetry of Spenser. Some attention will be paid to both Elizabethan critical theory and classical and continental backgrounds.

Eng 219 The Age of Milton 3 cr.

This course includes a brief reading of the later metaphysical poets and cavalier poets with concentration on the major poems of John Milton. Some attention is given to the religious and political conflicts of the time as they are reflected in both prose and poetry.

Eng 221 Journalistic Writing 3 cr.

This course places special emphasis upon the writing of the news story, the column, the feature, and the editorial. Some attention is given to college and school publications and to the make-up and editorial policy. May be substituted for Eng 222 to satisfy the advanced writing requirement for English Education majors.

Eng 222 Advanced Composition 3 cr.

This course primarily seeks to improve writing style, particularly in the more utilitarian forms such as the magazine article and the personal essay. The student is expected to

develop artistic sensitivity in handling and judging language and literary forms. Required of English Education majors.

Eng 241 Rise of the English Novel **3 cr.**
This course will survey the development of the English novel from its forerunners through the fiction of the Gothic romanticists and Jane Austen. Works such as the following will be read and discussed: Moll Flanders, Joseph Andrews, Tom Jones, Humphry Clinker, Tristram Shandy, and Mansfield Park.

Eng 245 Modern Drama **3 cr.**
The reading of plays will start with Ibsen and other Scandinavian dramatists, followed by plays by outstanding Continental, British, and American playwrights such as Becque, Chekhov, Pirandello, Wilde, Shaw, O'Casey, O'Neill, Williams, and Miller.

Eng 246 American Literature Since 1865 **3 cr.**
This course provides a study of major American writers from the Civil War to the present.

Eng 248 The Age of Johnson **3 cr.**
This course, while it emphasizes the art and criticism of Samuel Johnson as revealed in his writings and Boswell's **Life**, also examines a number of minor writers as philosophical and artistic innovators.

Eng 251 The History of the English Language **3 cr.**
The historical development of the English language is studied as a basis for a better understanding of modern American English. An examination is made of changes in sound, vocabulary enrichment from various sources, and changes in syntax and usage. The course is open to students from all departments and curricula, but is especially recommended to elementary majors and English majors.

Eng 261 The English Bible as Literature **3 cr.**
This course will consider the literary aspects of the English Bible by relating earlier translations to the Authorized Version of 1611 and by tracing some of the major influences of the King James Bible upon the writers and speakers of modern English. This course may be used as an elective in the humanities area of the general education program.

Eng 271 Modern American Fiction **3 cr.**
Major American writers of fiction since 1900 will be considered in this course. This course may be used as an elective in the humanities area of the general education program.

Eng 301 The Literature of Social Criticism **2 cr.**
This course focuses primarily on the satiric and comic modes, although reflective essays may also be included if their

major concern is social criticism. An attempt has been made to select works which reflect the social attitudes of most of the major periods of Western thought from Plato to Bertrand Russell. Selection has been made from all major literary genres. Not open to English majors.

Eng 351 English Drama to the Restoration 3 cr.
This course traces the development of English drama from 900 to the closing of the theatres in 1642, but does not include the plays of Shakespeare.

Eng 360 Nineteenth Century English Novel 3 cr.
This course traces the historical and technical development of the novel from Scott to Hardy. Included will be such authors as Dickens, Thackeray, Trollope, the Brontes, and Eliot.

Eng 364 Trends in Linguistics 3 cr.
This course explores recent developments in linguistic theory and research. The subject matter will be selected in an effort to expose the student to the work of major contemporary linguists and allied scholars who are concerned with enlarging man's knowledge about language. No pre-requisite required.

Eng 371 Directing and Play Production 3 cr.
This course affords each student the opportunity to select, cast, rehearse, and produce a one-act play. Included are suggestions on how to improvise for meeting the demands of small stages.

Eng 377 Creative Dramatics and Story Telling 3 cr.
This course, through workshop experience, stresses creative dramatics as a way of teaching for adults, a way of learning for children in both the elementary and secondary schools. It emphasizes the student planning, acting, and evaluating techniques as they apply to unscripted, spontaneous dramatic expression. As a preliminary to creative dramatics, students learn various techniques in story telling.

Eng 378 Costume and Make-up 3 cr.
This course deals with the practical application of straight and character make-up. Emphasis on costuming to show how mood and illusion can be created through proper selection of style, color, and texture of materials.

Eng 379 Stagecraft and Scenic Design 3 cr.
Theories and techniques of designing, building, and painting, of stage settings; organization and operation of production crews.

Eng 381 Fundamentals of Acting 3 cr.
This course gives attention to theory and practice in the techniques of acting. It introduces styles of acting as related

to dramatic forms, with emphasis on stage movement and voice projection.

Eng 469 Oral Interpretation **3 cr.**

This course emphasizes the understanding and appreciation of literature through developing skill in reading aloud. Special attention is given to selecting, adapting, and preparing material for presentation in high school classes.

Eng 472 Public Speaking **3 cr.**

Fundamental principles of public speaking, audience analysis, interest and attention, selection and organization of speech material, and delivery are taught in this course. Practice in preparation and delivery of extemporaneous speeches will be provided for.

Ed 451 Teaching of English, Speech and Reading in the Secondary Schools **3 cr.**

Eng 363 is a prerequisite to this course, and this course is in turn a prerequisite to student teaching in English.

This course introduces the student to the current professional practices in the teaching of English in high school. Background for competence in teaching is provided through (1) study of professional literature, (2) individual reports, (3) writing of unit plans and lesson plans, (4) observing teaching in high school classes, (5) participating in class demonstrations, and (6) building a professional file of instructional materials.

FOREIGN LANGUAGES DEPARTMENT

CHARLES W. FAUST, Acting Chairman of Department

EDWARD W. BIEGHLER
MARGARET BIEGHLER
KENNETH W. BRODE
JOSE CARRANZA
SHOW-CHIH RAI CHU
EDITH M. CORD
LEONARD B. DeFABO
FERNAND FISEL
WERNER J. FRIES
ANTONIO M. GUARDIOLA
AURORA P. GUARDIOLA
ISOLDE A. HENNINGER
WILLIAM J. HENZELMAN
VICTOR HUESEN
HERBERT E. ISAR
FRANK E. LANDIS
ARTHUR A. LEONE
CHARLOTTE LEVENTHAL
ONEIDA I. LOZADA
CRUZ MENDIZABAL
GEORGE R. MILTZ
LUDO OP DE BEECK
BERNARD ROFFMAN
ELEANOR ROSEMAN
MICHELINE A. ROZIER
DAVID L. SHIELDS
ANTHONY J. SORENTO
ANDREE-MARIE SRABIAN
ROGER N. WILLIAMS

COURSES IN THE GENERAL EDUCATION PROGRAM

Chi 151-152 Chinese I and II — 3 cr. each

Fr 151-152 French I and II — 3 cr. each

Ger 151-152 German I and II — 3 cr. each

Grk 151-152 Greek I and II — 3 cr. each

Lat 151-152 Latin I and II — 3 cr. each

Port 151-152 Portuguese I and II — 3 cr. each

Rus 151-152 Russian I and II — 3 cr. each

Sp 151-152 Spanish I and II — 3 cr. each

This elementary sequence is designed primarily for the student who will complete a two semester course only or has not had the language in question in high school. Its basic objectives are accuracy of pronunciation and to develop the ability to read, write, speak, and understand the basic elements of the language under study, with emphasis on the people and customs of the country or countries concerned. These courses may not be taken for credit by students who have completed a two-year sequence in high school.

Chi 251-252 Chinese III and IV — 3 cr. each

Fr 251-252 French III and IV — 3 cr. each

Ger 251-252 German III and IV — 3 cr. each

Grk 251-252 Greek III and IV — 3 cr. each

Lat 251-252 Latin III and IV — 3 cr. each

Rus 251-252 Russian III and IV — 3 cr. each

Sp 251-252 Spanish III and IV **3 cr. each**

This sequence is designed for students who have had two years of the language in high school or one year in college, and continue in the same language, either to fulfill a language requirement or for specialization. The course is a systematic review of grammar and an intensive study of cultural texts, incorporating discussions and written exercises. Material of literary and cultural interest will be studied, and strong emphasis is given to the development of oral skills. Majors in French, German, Russian, and Spanish must take 053 and 054 concurrently; non-majors are invited to do so if they desire and their schedules permit additional work in oral practice.

Courses Required in French, German, Latin, Russian, and Spanish

Fr 051-052 Oral Practice I and II **2 cr. each**

Ger 051-052 Oral Practice I and II **2 cr. each**

Rus 051-052 Oral Practice I and II **2 cr. each**

Sp 051-052 Oral Practice I and II **2 cr. each**

This laboratory sequence introduces the phonetic structure of the language, and encourages automatic response to recurring basic phrase units through constant oral drill. Majors must take this sequence concurrently with 151-152.

Fr 053-054 Oral Practice III and IV **2 cr. each**

Ger 053-054 Oral Practice III and IV **2 cr. each**

Rus 053-054 Oral Practice III and IV **2 cr. each**

Sp 053-054 Oral Practice III and IV **2 cr. each**

This advanced laboratory sequence is a continuation of 051-052, and carries oral skills to a higher level. It must be taken concurrently with sequence 251-252.

Fr 351-352 Advanced French Language I and II **3 cr. each**

Ger 351-352 Advanced German Language I and II **3 cr. each**

Lat 351-352 Advanced Latin I and II **3 cr. each**

Rus 351-352 Advanced Russian Language I and II **3 cr. each**

Sp 351-352 Advanced Spanish Language I and II **3 cr. each**

This sequence reviews and supplements the grammar of earlier courses, and aims toward a systematic analysis of the structure of the language. Some attention is given to the historical background of the language, particularly those phases which lie beyond apparent irregularities and anomalies. Frequent original themes are required in the second semester.

Fr 055-056 Advanced Oral Practice I-II 1 cr. each

Ger 055-056 Advanced Oral Practice I-II 1 cr. each

Rus 055-056 Advanced Oral Practice I-II 1 cr. each

Sp 055-056 Advanced Oral Practice I-II 1 cr. each

These are relatively informal conversation courses which the student majoring in the language must take concurrently with the courses numbered 351-352, meeting two periods per week but not in the language laboratory.

Fr 361-362 Development of French Culture and Literature I and II 3 cr. each

Ger 361-362 Development of German Culture and Literature I and II 3 cr. each

Lat 361 Development of Roman Culture and Literature 3 cr.

Rus 361-362 Development of Russian Culture and Literature I and II 3 cr. each

Sp 361-362 Development of Hispanic Culture and Literature I and II 3 cr. each

This course sequence examines the historical and cultural aspects of the countries involved, reviews their characteristic contributions over the centuries, and analyzes the relationship of each literary school to the moment which produced it.

Lat 362 Latin Conversation and Composition 3 cr.

This course aims at the ability to speak latin on a conversational level and to write grammatically correct Latin prose.

Ed 451 Teaching of Foreign Languages in the Secondary School 3 cr.

Prerequisite: Successful completion of the sequence 351-352 and 055-056 in the student's major language.

The objective of this course is to prepare teachers of foreign languages for the modern high school. It considers methods and materials of instruction, current theories and techniques, and requires preparation and presentation of illustrative units. Training in the administration, operation, and maintenance of the language laboratory constitutes a significant part of the course.

Elective Courses in French

Fr 253 Intermediate Composition and Conversation 3 cr.

This course, usually reserved for the main summer session, has as its prerequisite a minimum of one year of college French.

Fr 291 Special Projects I 1-3 cr.

Fr 391 Special Projects in French Literature **1-3 cr.**
These courses are planned to satisfy the special needs of an individual or a group as they may arise. Fr 391 is devoted to a special aspect or figure of French literature.

Fr 365 Seventeenth Century French Literature **3 cr.**

Fr 366 Eighteenth Century French Literature **3 cr.**

Fr 367 Nineteenth Century French Literature **3 cr.**

Fr 368 Twentieth Century French Literature **3 cr.**

These courses are designed to present general surveys of the literature of their respective periods, with due consideration to the social factors and events behind them.

Fr 371 The French Novel **3 cr.**
This course constitutes a coherent survey of the origin and development of the French novel. A selected list of works representative of the major modes are read in their entirety.

Fr 372 Studies in Contemporary French Literature **3 cr.**
The content of this course will vary in accordance with the needs and interests of those who will elect it.

Elective Courses in German

Ger 253 Intermediate Composition and Conversation **3 cr.**
This course, usually reserved for the main summer session, has as its prerequisite a minimum of one year of college German.

Ger 256 Scientific German **3 cr.**
Prerequisite: completion of German 251-252 or equivalent.
This course is designed to meet the needs of students specializing in the Natural Sciences, and will normally be offered during the main summer session if the demand justifies the offering of such a course.

Ger 291 Special Projects I **1-3 cr.**

Ger 391 Special Projects in German Literature **1-3 cr.**
These courses are planned to satisfy the special needs of an individual or a group as they may arise. Ger 391 is devoted to a special aspect or figure of German literature.

Ger 363-364 Introduction to German Literature I and II **3-6 cr.**
Selected readings in German poetry, drama, and fiction. The aim of the course is to acquaint the student with some techniques for intelligent understanding and formal criticism of works of literature.

Ger 367 Nineteenth Century German Literature 3 cr.

Ger 368-369 Twentieth Century German Literature 3-6 cr.
These courses are designed to present general surveys of the literature of their respective periods, with due consideration to the social factors and events behind them.

Ger 370-371 The Age of Goethe I and II 3-6 cr.
Selected readings to demonstrate the antecedents and accomplishments of the Golden Age of German letters, 1750-1832.

Elective Courses in Latin

Lat 371-372 Survey of Latin Literature I and II 3 cr.
This course sequence will give a comprehensive view of Latin literature from Ennius to the Middle Ages.

Elective Courses in Russian

Rus 291 Special Projects I 1-3 cr.

Rus 391 Special Projects II 1-3 cr.
These courses are planned to satisfy the special needs of an individual or a group as they may arise.

Rus 367-368 Nineteenth Century Russian Literature I and II 3-6 cr.

Rus 369-370 Twentieth Century Russian Literature 3-6 cr.
These courses are designed to present general surveys of the literature of their respective periods, with due consideration to the social factors and events behind them.

Rus 371 Russian Poetry 3 cr.
A survey of Russian poetry from the eighteenth century to the present with particular emphasis on Pushkin and Lermontov.

Rus 372 Russian Drama 3 cr.
The theater in Russia from Fonvizin to Chekhov and Stanislavsky.

Elective Courses in Spanish

Sp 253 Intermediate Composition and Conversation 3 cr.
This course, usually reserved for the main summer session, has as its prerequisite a minimum of one year of college Spanish.

Sp 291 Special Projects I 1-3 cr.

Sp 391 Special Projects in Spanish Literature 1-3 cr.
These courses parallel Fr 291 and 391, q.v. Sp 391 is devoted to a special aspect or figure of Spanish literature.

Sp 365 Spanish Literature Before 1650 3 cr.

Sp 367 Nineteenth Century Spanish Literature 3 cr.

Sp 368 Twentieth Century Spanish Literature **3 cr.**

These courses are designed to present general surveys of the literature of their respective periods, with due consideration to the social factors and events behind them.

Sp 370 Golden Age Drama **3 cr.**

This course traces the development of the Spanish theater and examines its artistic and spiritual flowering in the Baroque period.

Sp 371 The Spanish Novel **3 cr.**

After a brief survey of the origins and course of the Spanish novel major stress is given to the novel of the nineteenth century and the Generation of 98.

Sp 376 Spanish-American Literature **3 cr.**

Following a consideration of the salient tendencies of Spanish-American literature, this course may take the form of a comprehensive survey, or it may concentrate its attention upon the recent novel of social thesis.

Sp 390 Spanish in the Elementary School **3 cr.**

Prerequisite: Completion of Spanish 251-252 or equivalent.

In this course the prospective teacher of Spanish on the elementary level is introduced to materials suitable for grades 1-6. Much time is devoted in the language laboratory to the preparation of games, songs, poems, and story telling.

LINGUISTICS

Ling 421 Language and Society **3 s.h.**

The work of this course is designed to inform the student about the salient facts of language and its fundamental role in the development and continuity of society and culture. Some points considered are: language families and their characteristics, factors of linguistic change and development, reciprocal influences of culture and language, linguistic borrowing, systems of writing, and psycholinguistics.

FOUNDATIONS OF EDUCATION DEPARTMENT

DON-CHEAN CHU, Chairman of Department

DON-CHEAN CHU
MEARL F. GERHEIM
JOHN E. McELHOES
HAROLD J. YOUCIS
JOHN E. MERRYMAN
RAYMOND E. MILLER
PAUL A. RISHEBERGER
WILLIAM E. SALESSES

PROFESSIONAL EDUCATION COURSES
(Required of all Students in Education)

Ed 302 History and Philosophy of Education **3 cr.**

This course is designed to promote a clearer understanding of the modern educational system through a study of historical changes in instructional processes and ideas underlying it. Through the emphasis placed upon the study of educational beliefs and points of view, the course seeks to foster critical thinking which will lead to better judgement about the role of the school in our social structure, the meaning of democracy, the teacher and his profession, and the methods and objectives of the school.

Ed 422 School Law **2 cr.**

This course aims to provide an interpretation of school law as it directly pertains to the needs of the teacher.

GENERAL ELECTIVES
(These courses are open to juniors and seniors)

Ed 454 Public School Administration **3 cr.**

The course is designed to acquaint the teacher with the administration and organization of the American public school. Attention is given to the cultural role of the schools. Treatment is given to decision-making in the operation of the schools and the total task of school operation with the emphasis on what should be done. The functions and methods of all professional personnel in the operation and improvement of the schools will be considered.

Ed 455 Comparative Education **3 cr.**

A brief study of historical backgrounds in education followed by an examination of contemporary educational systems in Eastern and Western civilizations.

Ed 456 Issues and Trends in Education **3 cr.**

The purpose of this course is to survey the basic issues and problems confronting public schools, followed by an examination of innovations, trends, and the new approach in the American schools.

Ed 457 Secondary School Curriculum **3 cr.**

This course will study the social diagnosis for curriculum development, curriculum principles and procedures, patterns of organization, and curriculum issues.

GEOGRAPHY DEPARTMENT

THOMAS G. GAULT, Department Chairman

MAMIE L. ANDERZHON
DONALD J. BALLAS
FRANK J. BASILE
GOPAL S. KULKARNI
ISADORE R. LENGLET
VINCENT P. MILLER
JAMES E. PAYNE
LEONARD TEPPER
ROBERT N. THOMAS
WILLIAM WARREN
CHARLES E. WEBER
DAVID C. WINSLOW
SUSAN WOOD
MAURICE M. ZACUR

Foundation Geography Courses

Geog 101 World Geography **3 cr.**

The purpose of this course is to develop a knowledge and appreciation of patterns of natural environment throughout the world, with special emphasis on man's adjustment to these environments. Understanding and appreciation of man's interrelationship with the earth are accomplished through the study of the physical, cultural, economic, and demographic factors.

Geog 149 Economic Geography **3 cr.**

Economic Geography is designed to promote geographic and economic concepts, methods, and skills pertinent to the understanding of the spatial variation of production, consumption, and exchange over the earth's surface.

Geog 154 Cultural Geography **3 cr.**

May be taken in lieu of Geo 101.

The geographical aspects of population, settlement, ethnogeography, and the cultural landscape are studied. The course considers the relationships of various ethnic and cultural groups to the natural environment. The student is acquainted with the tools, philosophy, and literature of cultural geography and related disciplines.

Physical Geography Courses

Geog 153 Physical Geography **3 cr.**

May be taken in lieu of Geog 101.

Physical Geography introduces (1) the natural factors of the landscape as studied by the geographer; weather, climate, soils, rocks, minerals, structure of the earth's crust, the oceans; and (2) the tools of geography: globes, maps, aerial photographs.

Geog 240 Elements of Weather and Climate **3 cr.**

The elements of weather and climate, and the climatic regions of the earth are studied. Understanding and application are underscored in the laboratory.

Geog 241 Climatology

Physical aspects of climatology. Topics covered: heat and water budget; climatic classification systems; paleoclimates;

regional climates of the continents; selected microclimates; climate change in space and time; statistical and mathematical models.

Geog 246 Physiography I **4 cr.**

This course studies the form of the earth's crust and its associated water bodies; classification, distribution, processes involved in their geomorphological development, and effect upon the human landscape.

Geog 255 Cartography **3 cr.**

Cartography gives an understanding in the compilation and use of maps and develops an ability to construct economic and geographic maps. The use of aerial photographs is treated briefly.

Geog 452 Conservation-Resource Use **3 cr.**

Prerequisite: 9 hours of geography.

A comprehensive survey of conservation in natural and human resources. It stresses regional understanding; accomplished through inventory, planning and utilization evaluation. Field work, workshop activities, projects, and use of resource specialists are an integral part of the course.

Geog 422 Aerospace Science **3 cr.**

A seminar conducted by a number of visiting aerospace authorities. It treats of the atmosphere and space environment; history of light and flight problems; satellites and space probes; manned orbital and space exploration projects; propulsion, communication, and other systems. Problems of teaching and bibliography at the various elementary and secondary levels will be considered. An indoctrination flight in a small craft and field trips to air age installations and projects fortify learning.

Regional Geography Courses

Geog 251 Geography of Anglo-America **3 cr.**

A regional study of the United States and Canada concerned with the investigation of man's adjustment to his environment as influenced by the physical factors of climate, vegetation, relief soils, and natural resources as well as recognition of cultural adjustments to the geographic environment, and the interrelations between the two countries and the rest of the world. **(This course may not be taken if the student has completed Geog 112.)**

Geog 252 Geography of Pennsylvania **2 cr.**

Prerequisite: Geog 101.

The topography, climate, natural vegetation, natural resources, population, agriculture, manufacturing, mining, etc., are treated. Internal and external relationships are studied to

gain an insight into the various regions of the state and Pennsylvania's world relationships.

Geog 256 Geography of Europe **3 cr.**
This regional course aims to help students acquire the ability to find and apply geographic relationships underlying land use, dominant international problems, boundary disputes and the regional complexes of the European continent. Special attention is paid to the natural and cultural patterns as developed in modern times.

Geog 257 Geography of U.S.S.R. **3 cr.**
Special emphasis is placed upon the major geographic regions of the Soviet Union. Human adjustment to the physical environment of the various regions is given major consideration. Natural resources, cultural patterns, population — both numbers and distribution, strategic areas and related geopolitical problems are studied.

Geog 261 Geography of Far East **3 cr.**
This study of Korea, Manchuria, Outer Mongolia, Japan, and China involves an intensive investigation of the natural factors and man's adjustment to them. This is accomplished through the study of the geographic, economic and political regions of eastern Asia. The geographic background needed in planning solution for raising the standards of living, for the wise use and restoration of natural resources, and the industrialization of countries as presented.

Geog 262 Geography of South & Southeast Asia **3 cr.**
India, Pakistan, Indochina, Ceylon, Burma, Thailand, and Indonesia are the major areas studied. Students are given an understanding of the geographic relationships that effect land use, land reform, population, industrialization, nationalism, and boundary disputes. Special attention is given to regional similarities and differences, particularly as they pertain to human adjustment.

Geog 263 Geography of North Africa and Southwest Asia **3 cr.**
This study of the countries north of and including the Sahara Desert in Africa, Turko-Arabian peninsulas and Afghanistan in southwest Asia emphasizes the critical problems of water supply, land use, over-population, industrialization, resources and the relationships of these countries to other parts of the world.

Geog 271 Geography of South America **3 cr.**
A regional study is made of South America with special emphasis placed on regional differences and similarities. South America relations with other areas, especially the United States, are stressed. The unique problems of South America, with special attention to tropical land use are considered.

Geog 272 Geography of Middle America 3 cr.

The regional method is applied to Mexico, Central America and the West Indies. Similarities and differences are noted both in the cultural and natural landscapes. Special emphasis is placed upon cultural relationships and problems evolved from international commerce and trade. The effects of the United States economy upon these areas, are given serious attention.

Geog 281 Geography of Africa, South of Sahara 3 cr.

This course begins with a systematic study of the physical, cultural, and historical geography of the continent. The systematic background is followed by studies of the major regions and nations of Africa, emphasizing political, cultural, and economic factors in the development of that continent.

Geog 291 Geography of Australia and Pacific Islands 2 cr.

Australia, New Zealand, and the Pacific Islands are studied. Cultural patterns in relation to natural environments are considered to discover interrelationships. Geographic aspects of land tenure, race, population, location, geopolitics and the strategic importance of the various areas are considered.

Geog 292 Geography of Polar Regions 2 cr.

Both Antarctica and the North Polar area are studied setting forth (1) the history of their exploration, (2) the physical environment, (3) the importance of the regions and of knowledge concerning the areas, and (4) future use and control of the areas.

SYSTEMATIC HUMAN GEOGRAPHY COURSES

Geog 253 Geography and Society 3 cr.

A course especially designed for elementary and secondary social science teachers. Concepts of special importance will be emphasized, such as: spatial arrangement, areal change, earth for support of man, urbanization, significance of scale, biophysical relationships with society, interdependency, value of location, the chronological organization of knowledge, among others.

Geog 353 Geographic Influences in History 3 cr.

Prerequisite: Geog 101, 151, or 153 and Geog 251, or 112.

A study is made of the relationship of the natural environmental factors to the settlement, development, and progress of selected countries—with major emphasis on the United States.

Geog 354 Trade and Transportation 3 cr.

Prerequisite: Geog 101, 151, 153 and Econ 121.

An introduction to trade and transportation, it embraces analysis, theory and application techniques. Treatment includes trade patterns, place theory, statistics and models. Cir-

culation, accessibility, time and distance concepts are considered. Routes, terminals, vehicles, commodities, and passengers are defined.

Geog 453 Political Geography **3 cr.**

Prerequisite: Six credits in Geography and six credits in other Social Sciences.

Consideration is given to the geographic elements as related to geopolitical concepts, types and distribution of political systems, major political units and association, factors which influence political power, areas of friction, conflict, and arbitration.

Geog 454 World Problems in Geography **3 cr.**

Prerequisite: Six Geography credits and six credits in other Social Sciences.

A study is made of world problems and the geographic backgrounds necessary to understanding them. Attention is given to boundary questions, world trade, world food resources, control and development of natural resources, settlement population problems.

Geog 455 Historical Geography of Cities and City Planning **3 cr.**

Prerequisite: 12 s.h. of Geography.

This course is intended to give the student a basic understanding of the beginning of city planning and how it has developed under the influence of the fundamental physical relationships of social, economic, and geographic conditions to reflect the art and science of present city planning. This course will examine the process of city planning as practiced during the ancient, medieval, and renaissance periods, and will give a review of early planning efforts in America, as well as the present influences in city planning.

Geog 456 General City and Regional Planning **3 cr.**

Prerequisite: Geog 455.

The place of planning in the structure of government and the duties and responsibilities of planning commissions will be reviewed as well as planning enabling legislation of counties, cities, boroughs and townships. The process of preparing the City and Regional Comprehensive Plan will be studied. This course will examine the four phases involved in the preparation of a community plan. Study items such as land use, natural resources, topography, soils, geology, climate, and drainage will be utilized to prepare a general comprehensive plan.

Geog 457 Urban Design I **3 cr.**

Prerequisite: Geog 456.

This course will offer the student an opportunity to work on the various concepts of city and subdivision design which will utilize and describe the affects of topography, natural re-

sources and other physical elements as they affect urban design. Also included in this course will be a study of the neighborhood concept, planned unit development, and planning of new towns.

Geog 458 Urban Planning Basic Studies and Analysis **3 cr.**
Prerequisite: Geog 456.
Research, analythical design and plan making techniques in urban and regional planning including studies of natural resources, land use, circulation, community facilities, public utilities, economic base, employment, population, market analyses, source and use of statistical data. This course will examine the basic study items necessary upon which to prepare urban and regional comprehensive plans.

Geog 461 Regional Field Studies **1-3 cr.**
Prerequisite: 12 hours in Geography.
These trips, which involve the study of a selected area through the agencies of travel and actual investigation, are arranged from time to time to suit the needs of the student group.

Geog 462 Field Techniques in Geography **1-3 cr.**
Prerequisite: 12 hours in Geography or consent of instructor.
This course proposes to give experience in the study of land utilization and use of geographic tools and techniques of the field.

Geog 491 Geographic Thought and Philosophy **3 cr.**
Prerequisite: 18 semester hours in Geography.
The seminar is limited to senior and graduate geography majors or minors. The emphasis will be upon individual study, research, and presentation of geographic data—both written and oral. This course will be offered every semester and all geography majors (graduate and undergraduate) are required to complete this for major in education or in an area of concentration within the Liberal Arts.

Geog 492 Geography Honors **3 cr.**
Prerequisite: 18 semester hours in Geography.
Admission to the Geography Honors course is by invitation only to students who have attained junior standing. Students will do independent research over two semesters under the direction of a department member. Prerequisite is a B average in Geography courses, and a B average in Geography must be maintained during the honors program.

Geog 493 Geography High Honors **3 cr.**
Prerequisite: Geog 492.
This course is a third semester extension of Geog 492. Admission is by invitation only to those who have completed Geog 495.

PROFESSIONAL EDUCATION COURSES

Ed 421 Teaching of Geography in Secondary Schools 3 cr.

Prerequisite: 18 semester hours of Geography including two regionals.

The major objectives of this course is the study of modern methods and techniques for teaching geography or geographic materials, and of current curricula in geography. Emphasis is placed on the contribution of the discipline to the understanding of national and world problems.

Ed 422 Teaching of World Cultures 3 cr.

Prerequisite: 18 semester hours of Geography and/or Social Studies.

The course will emphasize modern techniques of teaching "World Cultures." Major study will be directed to the place of "World Cultures" in the curriculum, selection of texts, source materials for classroom use, and the preparation of resource and teaching units. Additional study will better enable the classroom teacher to maintain the proper balance between Geography and Social Studies in the preparation of the "World Cultures" course.

GEOSCIENCE DEPARTMENT

ROBERT L. WOODARD, Acting Chairman

WALTER H. GRANATA
FREDERICK R. PARK
FRANK W. HALL, II
PAUL A. PRINCE
CONNIE J. SUTTON

Geos 111 Solar System **3 cr.**

Fundamentals of astronomy with emphasis on the telescope, observational methods, an examination of the sun, moon, planets, asteroids, comets, and meteors, the mechanics and origin of the solar system, and the spatial relationship of the solar system to the other members of the universe. Scheduled laboratory periods and night observations are part of the course. Two hours lecture and one laboratory period or night observation per week.

Geos 112 Stellar Astronomy **3 cr.**

Fundamentals of astronomy with emphasis on the sun, stars, galaxies, the sidereal universe, and the use of spectroscopy for gathering astronomical data. Scheduled laboratory periods and night observations are part of the course. Two hours lecture and one laboratory period or night observation per week.

Geos 121 Physical Geology **3 cr.**

A basic course, with no college prerequisites, designed to meet the need of science and non-science majors. It provides a survey of the physical forces molding, modifying and destroying earth structures. Laboratory work includes map study, the identification of rocks and minerals, and field trips. Two hours of lecture and one three hour laboratory per week.

Geos 122 Historical Geology **3 cr.**

Prerequisite: Physical Geology or permission of instructor.

A basic course providing a history of our planet from the fiery beginnings to the present. Special consideration is given to rock stratigraphic sequences, invertebrate fossil distribution and geologic map interpretation. Laboratory work includes field studies. Two hours of lecture and one three hour laboratory per week.

Geos 213 Navigation **3 cr.**

A thorough grounding in the meanings of terms used in navigation, in the purposes and use of navigational instruments and publications and in the theory and general methods of piloting, dead reckoning and electronic and celestial navigation. Emphasis is placed upon chart work and the solution of practical navigational problems. Two hours lecture and two hours laboratory.

Geos 223 Paleontology **3 cr.**

This course covers the morphology, classification and evolution of the common fossils. Indiana University is fortunate in being located in an area in which a wide spectrum of representative fossils ranging from Cabrian to Permian time may be found within easy-driving distance of the campus. Major emphasis is placed on the invertebrate fossils. Field work is an essential part of the course. Two hours lecture and three hours laboratory per week.

Geos 225 Geology of Pennsylvania **3 cr.**

Pennsylvania is fortunate to possess a wide variety of fascinating geologic phenomena. An appreciation of Pennsylvania geology is not merely an end in itself, but can provide the geologic insight for understanding other areas with similar geologic features. The Appalachian Mountains in Pennsylvania are a classic area in which to study geosyniclinal development, processes of folding, faulting and mountain building. The glaciated areas of North Pennsylvania, the highly complicated igeneous and metamorphic terrain of south east Pennsylvania, along with the Triassic basin and the coastal plain all may serve as fine examples of different types of geologic development.

Geos 231 Mineralogy **3 cr.**

A lecture and laboratory concerned with the properties of minerals. An introduction to crystallography and the chemistry of crystals is followed by a determination of minerals and their probable genesis.

Geos 232 Petrology **3 cr.**

Prerequisite: Mineralogy.

The course is concerned with a description of rock character based upon the mineral components and the physical relationship between mineral components of a rock.

Geos 235 Structural Geology **3 cr.**

Prerequisite: Physical and Historical Geology or permission of instructor.

The course will provide an analysis of deformation and deformational processes as they apply to rock units. Specific structures will be related to the geomorphology and economics of the region. One hour lecture and four hours laboratory.

Geos 241 Meteorology I **3 cr.**

Introduction to meteorological sciences. Composition and structure of the atmosphere. Radiation principles. Elementary thermodynamics and heat balance. Cloud Physics. The meridional, zonal, and teritary circulations. Air masses, fronts and storm structure. Common instruments in use. Elementary weather map reading and forecasting techniques. Lectures, readings, and laboratory.

Geos 242 Meteorology II **3 cr.**

Prerequisite: Meteorology I.

An introduction to physical, dynamical and theoretical meteorology. Hydrodynamic equations of motion. Circulation and vorticity. Atmospheric turbulence. Energy transformations in the atmosphere. Examination of circulation theories. Fluid dynamics. Lectures, readings and a term paper.

Geos 247 Intro to Oceanography **3 cr.**

An introduction to the physical, chemical, geological and biological nature of the ocean. Topography, submarine geology and bottom deposits. Water masses and their circulation. Common instruments in use. Dynamical aspects of waves, tides, and currents. Elementary discussion of the principles of oceanic mechanics, dynamics and thermodynamics. Economic problems of the sea. Lectures, reading, term paper and laboratory.

Geos 321 Sedimentology **3 cr.**

The course in sedimentology is designed to help students investigate the nature of sediments, the classification of sedimentary rocks, the processes of sedimentation and to examine techniques used in the geologic investigation of sediments and sedimentary rocks. Sediments and sedimentary rocks are end products which reflect the environment at or near the site both during and after the time of deposition. The effect of varying physical, chemical and biochemical factors on sediments and sedimentary rocks will be stressed. The more important technique used in deciphering the geologic history of sedimentary rocks will be examined and students will have the opportunity to investigate and interpret various problems in the field of sedimentology.

Geos 324 Stratigraphy **3 cr.**

A course designed to present the principles and methods of stratigraphy as well as a consideration of selected stratigraphic problems.

The relationship between the physical and chemical environment in and around areas of current sedimentation will be examined. The observed relationships will then be applied to the interpretation of certain stratigraphic sequences of the geologic past.

Geos 335 Economic Geology **3 cr.**

Prerequisite: Mineralogy.

The course will deal with the location and probable origin on fossil fuels, ores of the non-metals and metallic ores both ferrous and non-ferrous.

Geos 461 Field Technique in Geoscience **3 cr.**

Instruction on the methods employed in the field to obtain and interpret geologic information.

Geos 498 Problems in Geoscience **1-3 cr.**

Selected problems in geoscience are investigated by upper level students. Credit may be determined by nature and scope of the work undertaken.

Geos 499 Research in Geoscience **1-4 cr.**

A method of instituting and giving credit for supervised research on the part of upper level students.

DEPARTMENT OF HEALTH AND PHYSICAL EDUCATION FOR MEN

JOHNNY J. MILLER, Chairman

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CHARLES A. GODLASKY
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WILLARD J. KAYLOR
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DEPARTMENT OF HEALTH AND PHYSICAL EDUCATION FOR WOMEN

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MARY A. MAGRUDER
RUTH PODBIELSKI

The objectives of the Departments of Health and Physical Education for Men and Women are as follows:

1. To provide opportunities for individual exploration, understanding and evaluation of sound personal and community health practices and alternatives.

2. To provide opportunities for recreational participation and advancement of skill competencies in those physical activities which satisfy individual interests and needs.

3. To provide opportunities for individuals to explore their capacities for physical activities so that educated decisions can be made concerning the nature and extent of their participation in such activities throughout life.

These objectives will be implemented through the conduct of the following services of the Departments of Health and Physical Education for Men and Women:

1. Required programs of Health and Physical Education for all University students.

2. Elective professional programs of Health and Physical Education for men and women who plan careers in this specialized area or in the related health professions.

3. Intramural programs consisting of a wide range of activities to meet the interests of University students.

4. Sports clubs, clinics and informal recreational opportunities for students, faculty and other University personnel.

5. Recreational and instructional programs meeting the interests and needs of the community of Indiana, Pennsylvania, insofar as is possible within the limitations of faculty and facilities necessary for the fulfillment of all obligations to the University community.

Required Program for Men

All men are required to schedule two semesters of physical education for a total of one semester hour of credit. This represents one-half (½) credit per semester. This requirement may be waived in part or whole upon the recommendation of the University physician, the Dean, School of Health Services, and with the approval of the Dean of the School in which the student is enrolled. See page for electives.

Regulation uniforms are required for all curricular activity and are available at the University Book Store for approximately $10.00.

Required Program for Women

Four semester hours of health and physical education are required of all University women. This requirement may be waived in part or whole upon the recommendation of the University physician, the Dean, School of Health Services, and with the approval of the Dean of the School in which the student is enrolled. See page for electives.

Regulation uniforms are required for all curricular activity and are made available for purchase at Waller Gymnasium at the beginning of each semester. Approximate cost, $16.00.

Required in Elementary Education

El 314 Methods in Elementary School Health and Physical Education **2 cr.**

This course includes games, rhythms, movement education, tumbling, folk and square dancing and other skills suitable for the elementary school child. The teaching of health in the elementary school is emphasized. Methods, materials and lesson planning are a part of the course.

ELECTIVE COURSES

HPE 204 First Aid (M & W) **1 cr.**

This course provides the student with an understanding of the practices and skills used for the proper care of all types of injuries. The American Red Cross Standard and Advanced Certification cards are issued upon successful completion of the course.

HPE 261 Senior Life Saving (M & W) **1 cr.**
This course emphasized the swimming and rescue skills necessary to complete the American Red Cross Senior Life Saving Course. Certificates are awarded upon successful completion of the course.

HPE 262 Water Safety Instructor's (M & W) **1 cr.**
This course emphasizes the teaching aspect of the skills, techniques and attitudes that are necessary in all areas of swimming. Those students successfully completing the course are qualified to hold such positions as water front directors, aquatics directors and other similar positions.
Prerequisite: HPE 261 or other proof of validated Senior Life Saving Certificate.

HPE 264 Skin and Scuba Diving (M & W) **1 cr.**
This course is designed to teach the necessary skills and proper use of equipment for underwater swimming. Tanks, regulators, weights and special equipment will be furnished The student must purchase a mask, fins and snorkle ($15.00). The course will include theory as well as practical work.
Prerequisite: American Red Cross Senior Life Saving Certificate.

HPE 334 Sports Officiating (M) **1 cr.**
Techniques of officiating and rules interpretation will be stressed. Practice in actual officiating will be required in several varsity sports.

HPE 336 Organization and Administration of Recreation 3 cr.
The history, theory and philosophy of recreation are discussed. The importance of play in the modern world, trends in recreation, problems encountered in organizing community-school programs and the principles of leadership are studied.

HPE 345 Care and Analysis of Sports Injuries (M & W) 2 cr.
This course is required for all men majoring in the Department of Health and Physical Education but may be elected by other students at the University. The prevention and care of accidents in sports activities are studied. The significance of the medical examination, conditioning exercises and sound health practices are discussed. Laboratory work includes taping, bandaging, use of physiotherapy equipment, massage and supervised training room experience.

HPE 346 First Aid Instructor's **1 cr.**
American Red Cross Standard, Advanced and Instructors certification will be awarded upon completion of this course.

HPE 405 Administration and Techniques of Camping (M & W) **2 cr.**
The growth and significance of the camp movement, and understanding of camping techniques and various types of

camp programs are considered. Attention is given to campcraft, nature study, woods lore and special occasion activities. School outdoor recreation programs are also studied.

HPE 406 Advanced Modern Dance (M & W) 2 cr.
Advanced techniques of performance and choreography are studied. Theory and composition form an integral part of course content.

HPE 407 Synchronized Swimming (M & W) 2 cr.
Attention is given to types of synchronized swimming and accompaniment, composition of performance routines and methods of training swimmers for synchronized swimming.

HPE 432 Organization and Administration of Intramural and Interscholastic Programs (M & W) 1 cr.
Organization and administration of intramural activities and interscholastic programs for both men and women are studied. Attention is given to philosophical implications for school communities at all levels.

CERTIFICATION IN THE FIELD OF EDUCATION FOR SAFE LIVING

HPE 251 Introduction to Safety Education 3 cr.
This course is concerned with the recognition of unsafe conditions and practices and the methods by which they may be eliminated or curtailed. It gives an overall view of the safety problems in the home, school, highway, public places, and the work environment.

HPE 252 Driver Education 3 cr.
Prerequisite: HPE 251. The student should have driving ability above the average and evidence of holding a driver's license, plus at least two years of driving experience without having a major accident for which the driver is responsible.

Driver Education is a combination of class instruction in traffic safety and driver training in actual behind-the-wheel practice in a dual control car. It prepares the student to teach driver education in a high school. Three hours lecture, two hours laboratory.

HPE 253 Methods and Materials in Safety Education in the Secondary Schools 3 cr.
Prerequisites: HPE 251 and HPE 252. Methods and Materials in Secondary Schools is a course that emphasizes the use of correlation and integrating safety with many different subjects and school activities, teaching as a separate subject and centering safety education around pupil organization and special projects.

HPE 254 Organization and Administration of Safety Education 3 cr.

Prerequisite: HPE 251 and HPE 252. The course emphasizes the basic principles of organizing, administering and supervising safety education procedure in the public schools at all grade levels. Encouraging student activities in the school and community is a part of the course.

HPE 255 Psychology of Accident Prevention 3 cr.

The application of the principles of psychology to the development of safe behavior in the school, home, community, highway, and industry. The cause of accidents in relation to attitudes, habits, and behavior.

* In order that the certification be properly recorded, students must include **Education for Safe Living** on the application for teaching certification prior to graduation. For those students who have already graduated, contact the office of the Dean, School of Health Services, for the correct procedure.

REQUIRED COURSES FOR PHYSICAL EDUCATION MAJORS

(All courses are conducted on a coeducational basis except when otherwise indicated by "M", for men only or by "W", for women only).

HPE 101 Personal and Community Health 2 cr.

The understanding of the scientific approach to personal health problems and the development of desirable attitudes and practices in all areas of personal health constitute the major part of the course. The cause, prevention, and control of various diseases are also considered.

HPE 102 Physical Education I (W) 1 cr.

This course provides a program of carry-over sports and activities which improve general physical fitness and develop usable physical skills. Swimming is a required part of the course taken in conjunction with one other elected activity.

HPE 142 Introduction to Health, Physical Education and Recreation 2 cr.

The significant historical events in health, physical education and recreation are considered. Scientific principles which form the bases for the profession, and the present day influences are studied. The basic concepts in teaching these areas are presented so the student will grasp the true meaning of the profession he has selected. The opportunity to develop a philosophy of physical education, health and recreation, and to define their relationship to educational goals and modern society are afforded.

HPE 212 Gymnastics-Tumbling (M) **1 cr.**
Instruction and skill development in elementary gymnastics apparatus, tumbling and stunts. Conditioning and the theory of gymnastics are also taught.

HPE 221 Human Anatomy **3 cr.**
This course is designed to acquaint the student with the terminology of the structures which comprise the various body systems.

HPE 231 Football-Volleyball (M) **1 cr.**
Fundamentals of position play, patterns of offense and defense, individual skills, and team organization in football are studied. In volleyball, individual skills, position play, and team patterns are considered. Conditioning and rule interpretations are covered for both sports.

HPE 233 Basketball-Soccer (M) **1 cr.**
Development in the basic skills of each sport are taught. Team tactics, drill patterns, conditioning, rules interpretations, and teaching methods are a part of the course.

HPE 262 Water Safety Instructor's Course **1 cr.**
This course emphasizes the swimming and rescue skills necessary to complete the American Red Cross Senior Life Saving Course. Certificates are awarded upon successful completion of the course.

HPE 301 Tennis-Badminton **1 cr.**
Presentation of skill progressions and analyses are made in combination with the opportunity to individually progress in skill competency in each activity. Methods and materials are emphasized.

HPE 302 Soccer-Basketball (W) **1 cr.**
Presentation of skill progressions and analyses are made in combination with the opportunity to individually progress in skill competency in each activity. Methods and materials are emphasized.

HPE 303 Bowling-Golf (W) **1 cr.**
Presentation of skill progressions and analyses are made in combination with the opportunity to individually progress in skill competency in each activity. Methods and materials are emphasized.

HPE 304 Volleyball-Softball (W) **1 cr.**
Presentation of skill progressions and analyses are made in combination with the opportunity to individually progress in skill competency in each activity. Methods and materials are emphasized.

HPE 305 Folk Dance-Square Dance **1 cr.**
Presentation of skill progressions and analyses are made in combination with the opportunity to individually progress in skill competency in each activity. Methods and materials are emphasized. The role of folk and square dance in the physical education programs of all levels is considered.

HPE 306 Field Hockey-Tumbling (W) **1 cr.**
Presentation of skill progressions and analyses are made in combination with the opportunity to individually progress in skill competency in each activity. Methods and materials are emphasized.

HPE 307 Basic Rhythms and Fundamentals of Movement **1 cr.**
This course is designed to develop an awareness of basic movement techniques through rhythmic experiences knowledge of music notation and terminology, and methods in creative presentation.

HPE 308 Modern Dance (W) **1 cr.**
A basic course in the Dance which introduces the student to technique and creative experiences in the development of dance as a creative art and an educational medium.
Prerequisite: HPE 307.

HPE 309 Apparatus-Track and Field (W) **1 cr.**
Presentation of skill progressions and analyses are made in combination with the opportunity to individually progress in skill competency in each activity. Methods and materials are emphasized.

HPE 310 Archery-Fencing **1 cr.**
Presentation of skill progressions and analyses are made in combination with the opportunity to individually progress in skill competency in each activity. Methods and materials are emphasized.

HPE 311 Advanced Field Hockey-Volleyball (W) **1 cr.**
Advanced techniques and game strategy are emphasized. Methods and materials are presented from the aspect of coaching responsibilities in these activities.
Opportunities are provided for individual skill progression.
Prerequisites: HPE 304, HPE 306.

HPE 312 Advanced Basketball-Gymnastics (W) **1 cr.**
Advanced techniques, game strategy and/or coaching responsibilities, methods and materials are emphasized. In gymnastics, consideration is given to instructional and performance methods for all school levels.
Prerequisites: HPE 302, HPE 306, HPE 309.

HPE 316 Officiating I (W) **1 cr.**

Officiating techniques and responsibilities in fall and early winter sports are emphasized. Opportunities for officiating experience and qualification for professional ratings are provided.

Prerequisites: HPE 301, HPE 312 methods series.

HPE 317 Officiating II (W) **1 cr.**

Officiating techniques and responsibilities in late winter and spring sports are emphasized. Opportunities for officiating experience and qualification for professional ratings are provided.

Prerequisites: HPE 301 - HPE 312 methods series.

HPE 321 Methods in Elementary Health and Physical Education **2 cr.**

A thorough study and application of theories of movement, self testing activities, rhythms, relays, games, gymnastics suitable for the elementary school child are a major portion of the course. Observation, materials and methods of teaching health and opportunities for student teaching within the class are provided.

HPE 337 Baseball-Football (M) **1 cr.**

Individual skills in fielding and batting, team strategy, position play and rules interpretation are stressed in the baseball course. Detailed analysis of team development, practice routines and theories of play are considered in the football course.

HPE 338 Gymnastics-Soccer (M) **1 cr.**

The rules, conditioning, theories of play, conduct of competitive teams and officiating are considered in the development soccer and gymnastics teams.

HPE 339 Basketball-Track and Field (M) **1 cr.**

The training, theories of play and officiating of team and individual events are given attention for these sports. Laboratory experiences with the intercollegiate teams will be required.

HPE 340 Wrestling-Swimming-Resistive Exercises (M) **1 cr.**

The basic skills of takedowns, escapes, reversals, pinning and counters are considered in wrestling. The training of varsity swimmers in the various events and diving are studied in the swimming course. The physiological bases and principles of exercise with weights and weight machines are taught in the resistive exercise course.

HPE 341 Tests and Measurements **3 cr.**

The study and application of tests in physical fitness, motor ability, motor educability, sports skills, and health education, are taught. The evaluation of tests results and the appli-

cation of elementary statistical methods to the health and physical program are also considered.

Prerequisite: Math 362.

HPE 342 Analysis of Movement **2 cr.**

A basic course in the study of muscular movement in physical activity; the application of the principles of kinesiology to body movement.

Prerequisite: HPE 221.

HPE 343 Physiology of Exercise **2 cr.**

The physiological aspects of various types of exercise on the human body are studied. The major factors of diet, conditioning, physical fitness, maximum performance level, and fatigue are considered. The latest research in sports physiology are also a part of the course.

Prerequisites: HPE 221 and Biol 151.

HPE 344 Adapted Physical Education Program **2 cr.**

The physiological principles of exercise and movement as they relate to the student with limited physical capacities are stressed. Modified and remedial activities for the disabled or handicapped student are taught. Administrative considerations for the adapted program are discussed. Screening tests and the appraisal of postural deviations are considered.

Prerequisite: HPE 342.

HPE 345 Care and Analysis of Sports Injuries (M) **2 cr.**

The prevention and care of accidents in sports activities are studied. The significance of the medical examination conditioning exercises, and sound health practices are discussed. Laboratory work includes taping, bandaging, use of physiotherapy equipment, massage, and supervised training room experience. The American Red Cross Instructors Rating may also be an outcome of this course.

HPE 404 Organization and Administration of the School Health Program **3 cr.**

A comprehensive study of the principles, methods, course content, and role of a complete school health program are considered. Primary emphasis is given to curriculum planning at all school levels, pupil needs, community resources, the school environment, and the school health services. Administrative relationships and procedures conclude the course.

Prerequisite: HPE 101.

HPE 408 Guided Research Problem (HPE majors only) **2 cr.**

In an environment of seminar meetings and individual study, the major student is guided in the selection and research of a problem pertinent to his interests and those of the profession of Health, Physical Education and Recreation. Student and faculty interaction within the structure of seminar meetings and conferences are a vital part of this course.

Prerequisite: Senior status in Health and Physical Education.

HPE 433 Coaching: Wrestling-Basketball-Track and Field-Soccer **1 cr.**

Students select two sports for a nine week concentration in each sport. The course includes the improvement of skills, drills, practice routines, analysis of the physiological and psychological development of the teams, and the place of each activity in the school program. Rules study, conditioning, diet, and pre-game procedures are a part of the course. Extensive laboratory experiences with the respective intercollegiate teams are required.

HPE 441 Organization and Administration of Physical Education **2 cr.**

The course includes the organization of the program in the elementary, junior, and senior high grades. It includes the instructional program, intramurals, and interscholastic sports. The relationship of the physical education curriculum to the overall school program is studied. Scheduling, medical excuses, sound health practices, equipment, and various administrative problems are discussed.

HPE 442 History and Philosophy of Physical Education **2 cr.**

A study of the historical and philosophical concepts of physical education is made in a seminar environment. Emphasis is placed upon the practical and aesthetic implications which the evolvement of the physical education profession holds for the physical educator.

Prerequisite: Senior status in Health and Physical Education.

ATHLETIC DEPARTMENT

CHARLES L. KLAUSING, Director

ANTHONY S. BERNARDI, assistant basketball coach
WILLIAM A. BLACKSMITH, III, wrestling coach
THOMAS E. CAMPISANO, rifle coach
VINCE CELTNIEKS, soccer coach
FRED W. CHASE, assistant football coach
BERNARD J. GANLEY, golf coach
CHARLES A. GODLASKY, tennis coach
RICHARD HORNFECK, assistant football coach
CHARLES L. KLAUSING, head football coach
EUGENE E. LEPLEY, swimming coach
ROBERT M. LETSO, assistant baseball coach
DAVID L. LUEKING, trainer
WILLIAM A. NEAL, assistant football coach
CHARLES E. RECESKI, assistant football coach
HERMAN L. SLEDZIK, head basketball coach
WALTER J. STAPLETON, assistant basketball coach
LOUIS R. SUTTON, cross country and track coach

HISTORY DEPARTMENT

CLYDE C. GELBACH, Department Chairman

CHARLES D. CASHDOLLAR
STEVEN CORD
RONALD T. FERGUSON
ERNEST FRICKE
THOMAS GOODRICH
E. SAMUEL HATFIELD
JOHN KADLUBOWSKI
DALE E. LANDON
NEIL LEHMAN
IRWIN MARCUS
JOHN M. MASTRO
JANE S. MERVINE
ROBERT L. MORRIS
JAMES M. OLIVER
JOHN MERLE RIFE
JOHN R. SAHLI
ALICE K. SCHUSTER
W. WAYNE SMITH
ALBERT J. WAHL
JOHN YACKUBOSKEY

HISTORY COURSES

Hist 101 History of Civilization I **3 cr.**

A survey course presenting in integrated form the origin and development of man's major political, social, economic, religious, and intellectual institutions from historical times to 1600 A.D. Although part of the course is devoted to Oriental and Near Eastern civilizations, the major emphasis remains on Greek, Roman, Medieval, and early Modern European civilizations. Through comparison, an effort is made to point up both the similarity and the uniqueness of these civilizations. Through the presentation of detail and conflicting historical interpretations an effort is made to create an appreciation of the depth and complexity of man's past.

Hist 102 History of Civilization II **3 cr.**

This course deals with man's development from 1600 to the present. Among the topics discussed are: The Commercial Revolution; the Age of Reason; the Age of Revolution—political, economic, and social; the rise of constitutional governments; nationalism and the clash of cultures incident to the growth of empire. Considerable attention is given to ideologies of the nineteenth and twentieth centuries. The course concludes with an examination of the various formulas for world order proposed or attempted since 1900.

Hist 103 History of the United States and Pennsylvania I **3 cr.**

A course covering the period in American history from the discovery of America to 1865 with emphasis on the history of Pennsylvania. Special attention is given to the colonial foundations of our nation, the emergence of our Federal Union, the rise of political democracy, social reform, and the controversy over sectionalism and slavery.

Hist 104 History of the United States and Pennsylvania II **3 cr.**

A course in the history of the United States and Pennsylvania from 1865 to the present in which the industrialization

of America, urbanization, the rise of organized labor, and the development of a distinctly American culture are stressed. Attention is also given to the political, economic, and social reform movements of this period in our history as well as to the increasing role of the United States in world affairs.

Hist 345 Colonial America **3 cr.**
A survey of United States' history to 1783 with special attention to economic, political, and social trends.

Hist 346 Middle Period of the United States, 1783-1850 **3 cr.**
A survey of United States' history from 1783 to 1850 with special attention to constitutional, political, economic, and social trends.

Hist 347 Civil War and Reconstruction **3 cr.**
A study of the failure of American democracy to cope with the issues of the mid-nineteenth century followed by the political, economic, military, and social developments during the war and the reconciliation of the North and South.

Hist 350 History of Latin America: Colonial Period, 1450-1820 **3 cr.**
A study of the life of the people, the Indian cultures, the conquest by the Spaniards and Portuguese, the government during the Colonial Period, and the Wars of Independence.

Hist 351 History of Latin America: National Period, 1820-Present **3 cr.**
A study of the history of the nations which have emerged since independence. Emphasis will be placed on the economic, political, cultural, and social developments of these nations as well as the relationships of these nations to others in the Hemisphere.

Hist 352 History of England to 1688 **3 cr.**
A survey of the growth of the English nation with emphasis on the political, social, and economic developments leading to the 17th century conflict between Crown and Parliament.

Hist 353 History of England, 1638 to Present **3 cr.**
A survey of the growth of England as a democratic constitutional monarchy. Attention is directed to the industrial revolution, and to imperial expansion and England's role in the 20th century world.

Hist 354 History of Russia **3 cr.**
A general survey of Russian history, culture, and institutions. Special consideration is given to the study of these historical forces which were formative of the Revolution of 1917.

Hist 355 History of Soviet Russia **3 cr.**
A general survey of contemporary Soviet history, culture, and institutions. Special consideration is given to the study of communist theory and its place in current Russian historiography.

Hist 356 The Old Regime through the Empire: France 1589-1815 **3 cr.**
Brief sketch of medieval France and the development of the monarchy. Concentration on the Old Regime, Revolution, and Empire with emphasis on politics, diplomacy, and economics. Readings and brief papers.

Hist 357 Modern France **3 cr.**
An investigation of the political, cultural, economic, and social developments since 1815. Lectures, discussions, and papers.

Hist 358 History of Germany to 1848 **3 cr.**
A study of the evolution of the German nation from its prehistoric origins, through its ancient, medieval and early modern phases, to 1848. Topics treated will be: the **Volkerwanderung,** Holy Roman Empire (First Reich), **Drang nach Osten,** Reformation, rise of Austria and Prussia, **Aufklarung** and classical Weimar, German idealism and romanticism, the impact of the French Revolution, Metternichian system, **Zollverein,** and the Revolution of 1848.

Hist 359 History of Germany: 1849-1949 **3 cr.**
A study of modern Germany from the Revolution of 1848, in its imperial, republican and totalitarian manifestations, to the post-war formation of the partitioned Germany of the present day. Topics treated will be: creation of the Second Reich by "Blood and Iron," Bismarckian Germany and **Realpolitik,** Wilhelmian Germany and **Weltpolitik,** multi-national Austria, First World War, Weimar Republic, rise of National Socialism and the Third Reich, Second World War, Nurnberg Trials, the Allied occupation, and the beginnings of East and West Germany.

Hist 360 Special Studies in History **3 cr.**
Selected periods or problems for intensive study.

Hist 361 Contemporary United States History **3 cr.**
A study of the political, economic, and cultural changes in American life since 1917. This course will examine the roots of contemporary social problems facing us today. Recent foreign policy trends will also be studied.

Hist 362 American Labor Movement **3 cr.**
An investigation of the growth of the American labor movement from the eighteenth century to the present. Emphasis is placed on the role of the Knights of Labor, American

Federation of Labor, Industrial Workers of the World and Congress of Industrial Organizations.

Hist 363 Diplomatic History of the United States **3 cr.**

This course traces the history of our foreign relations from the American Revolution to the present. Emphasis is placed on those principles and major policies upon which our foreign policies are based.

Hist 365 History of Pennsylvania **3 cr.**

A study of the foundings and development of Pennsylvania from its colonial beginnings to the present time. Emphasis is placed on the social, economic, and political developments in the different periods of its history. Special attention is given to the diversity of the people, their institutions and problems, and the growth of Pennsylvania to a leading position in our modern industrial world.

Hist 366 History of the Islamic Civilization **3 cr.**

The course is to be a study of the rise of the Islamic civilization and of its growth up to the nineteenth century, within the Middle East. Emphasis is on the cultural institutions that developed and on internal rather than external interactions.

Hist 371 Renaissance and Reformation **3 cr.**

This is a course dealing with the study of the Renaissance, with reference to the artistic, literary, scientific and political aspects, and the vital personalities motivating them; the Reformation as it affected the religious, economic, and political development in Europe. Particular attention will be given to the educational ideas of Erasmus and other reformers in this period.

Hist 372 History of Europe: 1600-1815 **3 cr.**

This course puts emphasis upon political, diplomatic, economic, and intellectual developments from 1600 to 1815. Coming in for special consideration are the development and operation of the European state system, the Enlightenment, the extension of the parliamentary institutions in England, and the French Revolution and Napoleon.

Hist 373 History of Europe: 1815-1914 **3 cr.**

A study of Europe in the nineteenth century with emphasis on political, diplomatic, military, and economic affairs. Approximately two-thirds of the course is devoted to a description of the major European states in this century. An effort is made to integrate this account through diplomatic history and by devoting approximately one-third of the course to topical consideration of such items as Imperialism, Nationalism, Socialism, and the Industrial Revolution.

Hist 374 Twentieth Century Europe **3 cr.**

The political, economic, and diplomatic trends in Europe since 1900, with a major emphasis on the causes and results of war, and the reach for recruiting.

Hist 375 History of the Far East **3 cr.**

A survey of the development of the Peoples of China, Japan, India, and adjacent territories for the purpose of gaining an understanding of their contemporary problems and ways of thinking as they relate to current world affairs. Special emphasis is placed on the impact of the West as a conditioning factor in the development of the Far East in Modern times.

Hist 376 History of the Middle East **3 cr.**

This course is a study of the Ottoman Middle East and its lack of political unity resulting from the rise and development of Arab, Turkish, Zionist, and other nationalist movements. Special attention is given to the effect of these movements upon the contemporary history of the Middle East and to the significance of that area in current world affairs.

Hist 380 Medieval Europe I, 400-900 **3 cr.**

A history of early Medieval Europe from the decline of the Roman Empire to the beginning of the growth of the feudal monarchies. Emphasis placed on political, constitutional, economical, and social developments in Medieval Europe from 400 A.D. to 900 A.D.

Hist 381 Medieval Europe II, 900-1350 **3 cr.**

A history of late Medieval Europe from the rise of the feudal monarchies to the beginnings of the Renaissance period. Emphasis is placed on political, constitutional, economic, and social developments in Medieval Europe from 900 A.D. to 1350 A.D.

Hist 390 Social and Intellectual History of the United States to 1875 **3 cr.**

A study of the social and intellectual factors which helped to shape the nation up to the time of Henry George.

Hist 391 Social and Intellectual History of the United States Since 1875 **3 cr.**

An analysis of the cultural forces which have helped to shape modern America. Ways of living characteristic of certain periods will be studied, together with the more significant social-reform movements and their attendant systems of thought.

Hist 392 Economic History of the United States **3 cr.**

A survey emphasizing features of the American economic system, especially the historical development of economic institutions and the role of economic groups in relation to other aspects of American society. From Independence to the President.

Hist 393 **3 cr.**

A description and analysis of the role of blacks in the history of the United States since the Civil War. Emphasis will be placed on the key leaders, major organizations, leading movements and the crucial ideologies of blacks in modern America.

SCHOOL OF HOME ECONOMICS

ELLA C. BENDIX, Dean

PATRICIA ANN BELL
WILLA RUTH CRAMER
GLORIA CONWAY
MARY ANN FLANCO
HELEN B. HOVIS
M. KATHLEEN JONES
ALMA B. KAZMER
BERNICE W. KING
ELEANOR GALLATI
ELIZABETH HEARN LaVELLE
YU-CHEN LIU
VANNIS A. LUCAS
DAWN McCLOWRY AUL
LEOLA H. NORBERG
MILDRED E. OMWAKE
C. ELDENA PURCELL
ELISABETH A. SCHMIDT
SHATYA SHARMA
JOANNE STEINER
ALLEN M. WOODS
JOSEPH WYSOCKI

COURSE DESCRIPTIONS

(Listed Numerically)

HE 111 Meal Management **3 cr.**

Basic principles of menu planning, marketing, food preparation and table service for family meals are investigated and studied. Demonstration and laboratory methods of teaching are used.

HE 112 Clothing I—Clothing Construction and Fitting **3 cr.**

Principles and techniques of fitting and construction of clothing are analyzed and studied. Directed laboratory experiences provide opportunity to solve individual clothing problems through the application of principles.

HE 113 Management and Equipment **3 cr.**

Management, decision making processes and organization relative to the administration of a home, is emphasized. Principles needed for the wise selection, efficient operation and care of kitchen, laundry and other household equipment are studied and applied. Comparative studies of operation and efficiency of various kinds of equipment, procedures and cleaning materials, and work processes are emphasized. Good management in arrangement, storage and working heights and procedures that will save time, energy, and money and secure good results in family living form the basis of the course.

HE 211 Advanced Foods **3 cr.**

Prerequisites: HE 111; Chem 101 & 102 or concurrently.

A study is made of advanced and in-depth problems in food preparation and meal service. In such areas food preservation, protein, carbohydrate and fat cookery are emphasized.

HE 212 Nutrition **3 cr.**

Prerequisites: Chem 101 and 102; Biol 151 or concurrently.

Sources and functions of nutrients, inter-dependence of dietary essentials and nutritive value of an optimum diet are investigated and studied. Nutritional requirements of each

stage of human growth and development of life, nutritional deficiencies and diseases are emphasized. Attention is given to the different economics levels, racial and ethnic backgrounds, food additives, food fads and fallacies.

HE 213 Principles of Design **2 cr.**
Principles of art and design are studied and applied.

HE 214 Clothing II — Fitting and Pattern Study **3 cr.**
Prerequisite: HE 112.
Principles and techniques of pattern design and alteration are analyzed and used in the creation of an original design from a basic pattern. A garment is made utilizing construction processes best adapted to the design, the fabric and to the individual.

HE 215 Home Furnishing **2 cr.**
Prerequisite: HE 213.
Problems of creating attractive homes are investigated and studied. Emphasis is given to the selection, purchasing, and arrangement of furniture and home furnishings; the selection and planning of floors, walls and windows; and the improvement of furniture. Directed laboratory experiences focus upon the application of principles and knowledge learned.

HE 216 Clothing Selection **3 cr.**
Prerequisites: HE 213, Psy 201.
Aesthetic, economic and social-psychological factors affecting the selection of clothing for the individual are studied.

HE 217 Home Planning and Furnishing **3 cr.**
Prerequisite: HE 213.
Problems confronting families in finding and selecting suitable housing and in creating attractive homes are identified and studied. Community planning; the selection, planning and construction of homes, are problem areas investigated. Focus is placed upon factors affecting cost and quality; plans for convenience, comfort, aesthetic values, and various legal factors. Directed laboratory experiences are required.

HE 218 Child Development **3 cr.**
Prerequisite: Psy 201.
The physical, emotional, social and intellectual development of the child from conception through the early adolescent period is studied and analyzed. Research from psychology, anthropology, sociology, and human development is analyzed in terms of contributing toward better understanding of normal development and behavior of the child.

HE 311 Family Health **1 cr.**
Family health problems are recognized and solutions investigated. An understanding of the part the home plays in

positive health is developed. Principles of the care of the sick in the home and needs in time of disaster and emergencies are studied. Practical laboratory experience is provided. American Red Cross requirements are met.

HE 312 Housing **2 cr.**

Prerequisite: HE 213.

Family and community housing problems are investigated. Convenience, cost, comfort, aesthetic values are emphasized in the study of such topics as: architectural designs, floor plans, processes in construction, ventilation, lighting, plumbing, heating, financing and legal factors. Individual projects and field trips are required.

HE 313 Quantity Food Service Management **3 cr.**

Prerequisites: HE 111, HE 211, HE 212.

This course is designed to give instruction and fundamental experiences essential to quality food production on a quantity basis. Experiences include planning, purchasing, preparing and serving nutritionally adequate lunches to the campus elementary school children. The requirements of the National School Lunch Program are emphasized.

HE 314 Textiles **3 cr.**

Properties, identification, selection, use and care of textile fibers and fabrics are studied and analyzed. Focus is placed upon laws governing labeling and other factors related to consumer aid, protection and satisfaction.

HE 315 Family Finance and Consumer Education **3 cr.**

Economic, sociological and psychological principles are applied to family money management problems. Production, distribution, retailing, and consumer aid and protection are investigated. Income (real and psychic) budgeting, installment buying, savings and investment, banking and wise use of time, materials and human resources are related to consumer satisfactions. Ways of living better on a given income are emphasized.

HE 351 Nutrition Education (School Education) **2 cr.**

A study is made of functional knowledge of nutritional concepts as backgrounds for helping teachers guide students through varied experiences directed toward improved food habits and nutritional health. The contribution made by the school lunch program is emphasized. Majors and non-majors.

HE 352 Nutrition for the Pre-School Child **2 cr.**

Nutritional needs of pre-school children are studied from the biological and physiological standpoint. The influences of social, economic and ethnic background in establishing dietary habits are analyzed.

HE 353 Clothing IV — Millinery and Other Accessories 2 cr.
Prerequisites: HE 213 and 216.
Selection, construction and remodeling of hats is included in this course. Appropriate costume accessories are created, analyzed and evaluated.

HE 354 Clothing V — Special Problems in Clothing 3 cr.
Prerequisite: consent of the instructor.
Clothing problems met by individuals, families and teachers are solved. This course provides excellent opportunities for students who have had too little experience in construction and other clothing problems.

HE 355 Diet Therapy 3 cr.
Prerequisites: HE 111 and 212; Chem 101 and 102; Biol 151.
A study is made of the modification of the normal adequate diet to meet the nutritional meals of the dietary problems of the infant, growing child, the aged, the pregnant and lactating woman, and pathological conditions requiring special dietary treatment. Special diets are planned and calculated. The course is planned for students desiring advanced study in nutrition.

HE 356 Food Service Administration 3 cr.
Prerequisites: Psy 201, HE 313, BM 201, HE 360.
This course studies the integration of the organization and administration of the food service functions correlating the management of personnel policies and training, work simplification, cost controls, supervision, and sanitation. Field trips to various types of food service institutions are included.

HE 357 Special Problems in Foods 3 cr.
Prerequisites: HE 111 and 211.
Emphasis is placed on demonstration of food preparation and problems of catering banquets, receptions and other social functions. Opportunity is provided for solving individual and/or group problems.

HE 358 Institution Food Service Equipment and Layout 3 cr.
Prerequisite: HE 313.
The emphasis in this course is placed on the selection and layout of food service equipment in relation to production requirements, materials and utility. Field trips permit the investigating of a variety of layouts.

HE 359 Quantity Food Purchasing 3 cr.
Prerequisite: HE 313 or concurrently.
This course discusses sources, standards of quality, grades, methods of purchase, care and storage of various classes of food. Emphasis is given to the development of purchasing policies and the organization of purchasing procedures. Trips to markets are included.

HE 360 Accounting for Food Service **3 cr.**

This course includes business procedures and practices; the use of accounting as a managerial tool; introduction of the basic theory of accounts; knowledge and skill adequate to keep books for a food service operation; journalizing, posting use of ledger accounts, closing of books of original entry and statement preparation aimed at the control of costs in food service operation.

HE 361 Institution Food Service Experience **6 cr.**

Prerequisites: HE 313, HE 356; HE 358; HE 359; HE 360, HE 364.

This is a guided experience under the supervision of a certified school food service director in schools enrolled in the National School Lunch Program. Students gain practical experience in management and other aspects of a school food service operation.

HE 362 Experimental Foods **3 cr.**

Prerequisites: HE 111, 211 and 212; Chem 101 and 102.

A study of food preparation based upon the scientific method is carried out wherein effects of chemical and physical principles are observed. This is accomplished by investigating group and individual problems.

HE 363 The Family and the Community **3 cr.**

An intensive study is made of community contributions and problems that affect the family as well as the contributions of families to the community. Group dynamics, and media of communication and other experiences that aid understanding of human behaviors is investigated. Field work is an integral part of the course.

HE 364 Methods in Teaching **3 cr.**

An intensive study is made of Home Economics as it is related to and interrelates with the entire school and educational program. Curriculum, teacher responsibilities, pupil-teacher planning, home-school relations, teaching techniques and aids, learning, evaluation and special school functions are studied. Reference is made to the application of training methods for food service employees. Observations are included.

HE 402 Nutrition and Community Health **2 cr.**

A study is made of nutritional problems of family members from infant to aged people of the community. Emphasis is placed on reorganizing good nutritional status and ways of guiding families toward better nutrition. School lunch is also emphasized. The course is also required of Public School Nursing majors as PSN 402.

HE 403 Home and Family Living **3 cr.**

Housing, home furnishing, household equipment, clothing, operational and nutritional needs of families are investigated.

Home management and money management operations are investigated. Emphasis is placed on ways to help families derive the greatest benefits and satisfactions within the family income. Non-majors.

HE 411 Family Relations 3 cr.

Students have opportunity to gain knowledge and understanding of personality development and the importance of early family and community influence in well adjusted lives and family stability. Emphasis is on preparation for marriage and problems of human relations within homes. Reading, discussion, and conferences are used in facing and solving problems.

HE 412 Nursery School 3 cr.

Prerequisites: Psy 201, 302 and HE 218.

Participation in the nursery school as a teacher assistant applying principles and concepts of child development is the major focus of this course. Techniques of planning for and managing a group of pre-school children are emphasized.

HE 413 Consumer Economics 3 cr.

Sociological and psychological reactions of persons are discussed in relation to customs, advertising and income. Knowledge of production, distribution and retail is used to analyze and interpret governmental and other aids to the consumers. Research studies are required of each student.

HE 414 Home Management (Residence House) 3 cr.

Decision making in group living is emphasized. Satisfying human relations are developed as family members care for a baby; plan, prepare and serve nutritious meals; use and care for equipment and furnishings; and provide for individual and group needs in various other ways.

HE 415 Teaching Methods and Professional Practicum in Vocational Home Economics 4 cr.

This course, taken the semester prior to the Student Teaching Experience, provides students with the opportunity to plan home economics curricula in relation to the needs and interests of pupils and their families within the school community. Students become orientated to classroom experiences, activities and responsibilities which they will encounter in teaching, through planned observations in Secondary Schools, Adult Classes and their assigned Student Teaching Centers.

HE 416 Family Finance 2 cr.

Economic principles underlying personal and family financial problems are studied. Sources of income, use of time, material and human resources, and planning for wise use of family income are investigated.

HE 417 Clothing III — Tailoring **3 cr.**

Prerequisites: HE 112, 214 or equivalent.

Various tailoring methods are studied and applied in the selection, fitting and construction of a tailored garment. Comparative study is made of commercial-tailored garments.

Ed 421 Student Teaching (For Home Economics) **6 cr.**

Prerequisite: HE 415.

The student teacher participates in the experiences and responsibilities of the home economics teacher in the high school classroom as well as the community. The university supervisor guides and coordinates the kinds of learnings and aids the students in analysis and evaluation of personal and professional growth during visitations and Saturday Conferences.

HE 421 Pre-School Education, Ages 2-5 Years **4 cr.**

Prerequisites: Psy 201, 303; HE 218 and 412.

Directed experiences in assisting a master teacher in a nursery school is required. Experiences include observation of work with children in a variety of situations. Selected children are studied intensively. Research is investigated as a basis for understanding child behavior, principles and procedures of guidance.

HE 422 Early Childhood Education — Equipment and Materials **2 cr.**

Prerequisites: Psy 201, 302; HE 218 and 412.

Materials, equipment, activities and situations that will aid the physical, social, emotional and intellectual development of pre-school children are investigated. Children and the variations of behavior are observed and analyzed as the 2-, 3-, and 4-year old reacts and interacts to their environment.

HE 423 Marriage and Family Relations **3 cr.**

Prerequisites: HE 411.

Emphasis is placed on the development of an understanding of inter-personal relations within family living. Potential problems of marriage are identified and investigated in terms of the development of an understanding of what constitutes good adjustment. Interviews, projects, observations, and case-studies are planned and carried out by individuals and/or groups.

HE 424 The Family **3 cr.**

Prerequisite: HE 411.

A concentrated study is made of selected areas of family life with emphasis on the dynamics of family interaction and interpersonal relationships. Group projects and individual studies are required.

HE 451 Workshop in Home Economics **3 cr.**

This course is planned to meet the needs of experienced teachers and college graduates in home economics who are expecting to return to the teaching profession. Current educational trends, issues and problems in home economics education are identified and evaluated. This advanced course is required of those who are returning to the home economics teaching profession after an absence of five or more years. It may be elected by advanced undergraduate students who have completed HE 415 and Education 421.

HE 452 Vocational Home Economics — Curriculum Construction **2 cr.**

Prerequisite: HE 415.

Home Economics curriculum planning and construction are studied in relation to the changing home economics curriculum in terms of the Vocational Education Act of 1963-P.L. 88-210. An investigation and evaluation is made of current home economics related wage earning programs in secondary schools. Emphasis is placed on planning and evaluating home economics wage earning programs as an integral part of the home economics curriculum and the total educational program of the vocational and secondary schools. Field trips to schools, and to business and industrial establishments are required.

HE 453 Materials and Methods of Teaching in Home Economics **2 cr.**

Current instructional and curriculum materials, learning resources, methods and techniques of teaching will be investigated and studied in relation to the philosophy of home economics education, learning processes and the conceptual framework of home economics. This course is for advanced undergraduate students and college graduate in home economics.

HE 454 Adult Home Economics Education **2 cr.**

Principles and theories of adult education are investigated and studied. Emphasis is placed on the needs and interests of adults and how home economics can meet these. Plans for implementing a vocational home economics program are formulated, analyzed and evaluated.

HE 455 Education and Vocational Guidance **3 cr.**

Implications of the Manpower Act of 1962 and the Perkins Bill for home related employment are studied. Needs in Pennsylvania communities are investigated. Possible programs are formulated and experiences needed for their implementation sought.

HE 456 Evaluation in Home Economics **2 cr.**

Principles, techniques and procedures of evaluation are investigated in terms of learning processes. Evaluative instruments are studied and evaluated. Instruments for appraising major types of objectives are planned and constructed. This course is for advanced undergraduate students and college graduates in home economics.

DEPARTMENT OF LEARNING RESOURCES AND MASS MEDIA

NORMAN W. SARGENT, Department Chairman

LAWRENCE D. BERGMAN
MERLE G. KLINGINSMITH
DONALD M. MacISAAC
WILLIAM McCAVITT
J. ROBERT MURRAY
EDWARD F. HAUCK

LRes 301 Audio-Visual Education **2 cr.**

(Professional course required of all students in Education) Prerequisite: General Psychology.

A consideration of the needs for sensory techniques and the integration of all learning resources is given, with attention to the psychological processes involved. Through class and laboratory work the student will have an opportunity to become acquainted with materials and equipment and skilled in audio-visual techniques within the teaching field. Activities will include actual production of materials for class use and participation in their use.

LRes 371 Photography in Education **3 cr.**

This course is designed to provide a good introduction to photography and to emphasize the potential value of teacher-made photographic materials in teaching. The student will learn to use his own camera effectively; to determine exposures; to develop, contact print, and enlarge his own black and white negatives; to experiment with natural and artificial lighting; and to shoot, develop, and mount his own color slides. Both the technical and the artistic aspects of photography will be considered. No prerequisite required. Student must provide his own 35mm camera and an exposure meter. See instructor.

LRes 372 Motion Picture Production in Education **3 cr.**

This course will emphasize the possibilities for effective use of teacher-made films in the classroom. The student will learn to use his own 8mm or 16mm motion picture camera effectively, to choose the right film stock, to determine the correct exposure, to plan and direct the action, to break the material up into scenes for effective presentation, to edit the material shot, and to use natural and artificial lighting. No prerequisite required. Student must provide his own camera and an exposure meter. See instructor.

LRes 373 Introduction to Radio Broadcasting **3 cr.**

This course is an introduction to the organization and operation of a radio station. Technical aspects of radio and programming techniques will also be studied. The station's relations with educational, industrial, and other social institutions will be examined.

MATHEMATICS DEPARTMENT

MELVIN R. WOODARD, Chairman

JOSEPH S. ANGELO
IDA Z. ARMS
EDWIN W. BAILEY
ROBERT J. COATES
BLAINE C. CROOKS
CAROLYN DEISHER
GUS DiANTONIO
DONALD D. DUNCAN
NANCY FINCKE
RAYMOND D. GIBSON
MARLIN E. HARTMAN
WILLARD W. HENNEMANN
JOHN P. HOYT
JOSEPH J. HRADNANSKY
WILLIAM F. LONG
*CHARLES R. MADERER
JAMES H. MAPLE
DOYLE R. McBRIDE
RONALD L. McBRIDE
RONALD E. McCOY
KATHERINE McKELVY
WALLACE F. MORRELL
JoANNE MUELLER
CARL P. OAKES
JOSEPH A. PETERS
MILDRED M. REIGH
WILLIAM RETTIG
DALE M. SHAFER
MAHER Y. SHAWER
HARVEY A. SIMMONS
WILLIAM R. SMITH
ELWOOD R. SPEAKMAN
MERLE E. STILWELL
LaVERNE THOMPSON
MARILYN E. VALLOWE
JACK R. WESTWOOD
GEORGE M. WHITSON
HALLEY O. WILLISON
RICHARD E. WOLFE

* On leave of absence.

COURSE DESCRIPTIONS

Math 101 Foundations of Mathematics **3 cr.**

This course is designed to familiarize students with some of the ideas underlying the development of mathematics and an elementary treatment of problem solving and decision making. The primary objective is not to develop "computational" skills but to study mathematics in its role as both an art and a science.

Topics to be studied include: numeration and number systems with special emphasis on recognizing patterns and structure; intuitive set theory and applications, including probability and statistics; and informal logic in its relation to mathematics, both in algebra and geometry.

Math 152 Algebra and Trigonometry **5 cr.**

Logic, number systems and equations; plane trigonometry; inequalities, functions and relations; complex numbers; theory of equations, mathematical induction; the binomial theory are the topics considered in this course.

Math 155 Computer Programming **1 cr.**

This course is designed to acquaint the student with the facilities in the area of the computer programming available to him. The basic language rules of the Fortran compiler system and library programs and their use are studied. It is hoped that the student will then apply his knowledge in other courses throughout his college career.

Math 157 Analytic Geometry and Calculus I **4 cr.**

Analytic Geometry of the straight line; circle; and the conics; polynomials and their graphs; elements of differential and integral calculus with applications involving polynomials.

Math 160 Elementary Numeration Theory I **3 cr.**

Prerequisite: 3 years high school academic mathematics.

This course is designed for those students whose major is elementary education and is one of the first two courses in the concentration of mathematics.

Among the topics included in this course are: Development and the structure of numeration systems; properties of the rational reals, their subsets and the operations defined on them; tests for divisibility; modular arithmetic; primes; factorization; fundamental theorem of arithmetic; introduction to mathematical systems.

Math 250 Elementary Numeration Theory II **3 cr.**

Prerequisite: Math 160

This course is a continuation of Math 160 and will include such topics as: Rules for divisibility; properties of and operations with real numbers; finite and infinite sets; Venn diagrams; order relations; modular and clock arithmetic; introduction to algebra and geometry; informal look at probability; truth tables; linear functions.

Math 251 Basic Concepts of Algebra (Elementary) **3 cr.**

Prerequisite: Math 160 and 250

This course will include such topics as those touched upon in earlier courses but from a more general point of view. Generalization and abstraction in linear equations, systems of equations, sets, groups and fields, inequalities, absolute values, complex numbers, polynomials, algebraic structures and functions will be stressed.

Math 253 Theory of Equations **3 cr.**

Prerequisites: Analytic Geometry and Calculus I.

Among the topics considered are algebraic equations; determination of roots; algebraic solutions of cubic and quartic equations; systems of equations; determinants; matrices, and symmetric functions.

Math 257 Analytic Geometry and Calculus II **4 cr.**

Prerequisites: Analytic Geometry and Calculus I.

Differential and integral calculus of algebraic and transcendental functions with applications to the physical sciences.

Math 341 Theory of Numbers **3 cr.**

Prerequisite: Consent of Instructor.

A study of the foundation of number theory with special attention being given to such topics as repeating decimals and

congruences; number theoretic functions; diophantine equations, continued fractions.

Math 350 Foundations of Informal Geometry (Elementary) 3 cr.

Prerequisite: Math 160, 250, 251.

This course includes a discussion of such topics as: congruences, measurement, parallelim, similarity, concurrence of medians, altitudes, construction of proofs, practical applications, elements of spherical and plane coordinate geometry. This will be a course of greater depth and generality than that found in the secondary school and will be in line with the current curriculum revisions.

Math 351 Pre-Calculus Mathematics (Elementary) 3 cr.

Prerequisites: Math 160, 250, 251, 350.

This course is designed to give an over-all view of fundamental topics in trigonometry, analytic geometry, probability and statistics, permutations and combinations, the binomial theorem, sequences and fundamental calculus.

Math 355 Foundations of Geometry I 3 cr.

Prerequisite: Math 375.

The initial approach in this course is a synthetic treatment of Euclidean Geometry using Hilbert's axioms. Projective geometry is studied in some detail in order to acquaint the student with non-Euclidean geometry. The relationships between Euclidean, projective, and other non-Euclidean geometries are introduced.

Math 356 Foundations of Geometry II 3 cr.

Prerequisite: Math 355.

This course treats and extends the topics of Math 355 from an analytic point of view. The study of projective transformations and representations of conics are the major topics.

Math 357 Analytic Geometry and Calculus II 4 cr.

Prerequisite: Math 257.

This course will extend the background of the student in elementary calculus and will consider infinite series, Taylor's and Maclaurin's expansions, partial differentiation, multiple integrals, and an introduction to ordinary differential equations.

Math 361 Ordinary Differential Equations 3 cr.

Prerequisite: Math 257.

In this first course in differential equations the emphasis is placed on techniques of solution and elementary physical applications. A thorough study is made of differential equations classified as order one—degree one, linear, and nonhomogeneous. Solution techniques involving the differential operator, the Laplace transform and infinite series are introduced.

Math 362 Probability and Statistics **3 cr.**

This course is intended for non-mathematics majors. The course emphasis is on applications as opposed to theoretical developments of principles and formulas. The topics covered in this course are: frequency distributions, measures of central tendency, variation, elementary probability, sampling, estimation, testing hypothesis, and linear correlation and regression.

Math 363 Mathematical Statistics I **3 cr.**

Prerequisite: Math 257.

Probability theory necessary for an understanding of mathematical statistics will be developed in this course. Applications of the theory will be given with emphasis on the binomial, the Poisson, and the normal distributions. Distributions of sums and a central limit theorem will be developed. Statistical applications will include point and interval estimation and testing statistical hypothesis.

Math 364 Mathematical Statistics II **3 cr.**

Prerequisite: Math 363.

This course is a continuation of Math 363. Additional topics in mathematical statistics will be introduced both from the theoretical and from the applied point of view. Such topics are: correlation and regression theory; Chi-square, Student's "t", and F distributions; the Neyman-Pearson lemma and the likelihood ratio method of constructing tests of hypotheses; analysis of variance; properties of good estimators; and non-parametric methods.

Math 366 Computer Math I **3 cr.**

Language rules of the FORTRAN compiler system are presented. FORTRAN is used for writing digital computer programs which are compiled and executed on the College computer.

Math 367 Numerical Analysis **3 cr.**

Prerequisites: Math 366, 357, 361.

Errors in computation. Approximation of functions by polynomials. Iterative methods of solving equations. Matrices and systems of linear equations. Interpolation. Numerical differentiation and integration. Methods for solving ordinary differential equations on computers.

Math 371 Linear Algebra I **3 cr.**

Topics considered in this course are vector spaces, linear transformations and matrices. The emphasis is on the theory for arbitrary finite dimensional spaces. Applications to Euclidean n-space are considered briefly.

Math 375 Introduction to Modern Mathematics **3 cr.**

This course is a preparatory course to the courses Abstract and Linear Algebra, Advanced Calculus, and Geometry.

An introduction to formal logic sets the stage for a thorough study of the development of the complex number system from a postulational viewpoint, starting with the natural numbers, through the integers, rationals, reals and finally the complex numbers. The concepts of group, ring, integral domain and field are basic to the development.

Math 376 Abstract Algebra **3 cr.**

This course consists of a development of the theory of integral domains, fields, rings, and groups. It is designed to develop the student's power to think for himself and to improve his ability to construct formal proofs.

Math 381 Advanced Calculus I **3 cr.**

Prerequisite: Math 357.

Topics from the calculus are treated with a more rigorous point of view. The course consists of a study of the real number system, point sets, functions, sequences, limits, continuity and uniform continuity, differentiation, indeterminate forms, and the Riemann integral.

Math 382 Advanced Calculus II **3 cr.**

This course includes a study of functions of more than one variable, partial differentiation, multiple integration, line and surface integrals, Green's theorem, Stokes' theorem, infinite series, convergence and uniform convergence, and improper integrals.

Ed 451 Teaching Mathematics in the Secondary Schools **3 cr.**

The major objective of the course is to prepare teachers of mathematics for the modern secondary schools. The principal activities in the class are the preparation and presentation of lessons on concepts from the secondary schools mathematics courses; study of the principles of teaching and learning; observations; study of current mathematics curricula; and learning to use curriculum materials effectively.

Math 452 Seminar in Mathematics **1-4 cr.**

This course requires the student to do independent study in some area of mathematics beyond the scope of the courses he has taken. The course is conducted in one of two ways. In the first method the student chooses the area for investigation upon the approval of the instructor. Upon completion of the study, the student gives an oral presentation of his findings to other members of the group. In the second method the various instructors offer seminars in selected topics. The student chooses the topic of interest to him and the class studies the particular topic in depth.

Math 461 Computer Math II **3 cr.**

Prerequisite: Math 366.

Digital computers are analyzed as to size, type, usage, storage, auxiliary storage, input-output facilities and monitors. Symbolic programming and compiler systems are studied.

Math 471 Seminar: Research Usage of Computers

Prerequisite: Math 461.

This course deals with selected topics using advanced programming techniques.

El 313 Teaching Mathematics in the Elementary School **3 cr.**

Prerequisite: Math 101.

In this course emphasis will be given to the place of arithmetic in the elementary school and to the recent changes in curriculum and method; to techniques for developing concepts and processes; to recent research in the field of arithmetic; and to books and materials helpful to prospective teachers. Observation of master teachers at work will be planned.

MILITARY SCIENCE

COLONEL WILLIAM S. WILEY, JR., Chairman of Department

LTC ROBERT B. GINGRICH
MAJ ROBERT M. HOFMANN
MAJ KEITH F. VANSANT
MAJ FRANCIS V. CAMPI
MAJ WILLIAM V. MILLER, JR.
CPT PAUL P. FOLEY
CPT ROBERT E. HAMILTON
CPT CHARLES L. CUNIS
CPT ROBERT J. KELLY
CPT JOHN E. SECOR
SGM JOHN R. DALE, JR.
MSG WILLIAM L. SCHAFER
SSG THEODORE DECHMAN, III
SSG EDWARD N. SHELTON
SSG GEORGE W. DETWEILER

Indiana University of Pennsylvania, Indiana, Pennsylvania, is authorized a Senior Division, Reserve Officers Training Corps unit. The Senior Division ROTC program offers to the student the opportunity to prepare for the highest service of citizenship; it offers the right to contribute towards the preservation of the freedoms that U.S. citizenship offers. It is from the knowledge that one is preparing to take his place as a defender of American liberty, in the ranks that have enrolled numberless citizen soldiers before him, that comes the greatest reward and meaning of ROTC and Reserve Officer Service.

REQUIREMENTS FOR ENROLLMENT

The general requirements for enrollment in the ROTC are that the student be a citizen of the United States, physically qualified as prescribed by the Department of the Army, accepted by the institution as a regularly enrolled student, not less than 14 years of age, but less than 24 years of age at the time of enrollment. For continuance in the ROTC the student must successfully complete such general survey or screening tests as are given to determine eligibility for admittance to the Advanced Course and agree in writing upon admission to the advanced course to complete the course of instruction offered, unless released by the Department of the Army. Veterans may receive credit for portions of the ROTC military course for military service completed prior to enrollment in ROTC.

WHAT ROTC OFFERS

Uniforms, equipment, ROTC textbooks are issued without cost to formally enrolled cadets.

Students having successfully completed the Basic Course, or having at least four months of active service in the Armed Forces, and meeting the Advanced Course admission requirements are paid a retainer fee, currently amounting to $50.00 per month during the time they are taking the Advanced Course.

After the student completes the Advanced Course and receives his baccalaureate degree from the university he is eligible for a commission as a second lieutenant in the United States Army Reserve.

Students who have completed the first year Advanced Course and have displayed outstanding qualities of military leadership, high moral character, and definite aptitude for military service are designated "Distinguished Military Students." Students so honored who maintain the standards until graduation are designated "Distinguished Military Graduates," and are eligible for appointment in the Regular Army.

Policies affecting enrollment and continuance of students in the Senior Division of the Reserve Officers Training Corps are included in the provisions of the Selective Service Act of 1950. This Act provides for military deferment of students (certain basic course students upon request, and all advanced course students) until completion of their academic course under the following conditions:

1. Students enrolled in the ROTC must remain in good standing in both their academic and military courses.
2. They must demonstrate proper and sufficient aptitude and leadership characteristics ultimately to qualify them for appointment as commissioned officers.
3. They must attend and successfully complete summer training camp (usually at the end of the Junior year).
4. They are required to sign an agreement to accept a commission in the Army, if and when tendered, and to serve not to exceed two (2) years on active duty as an officer, subject to call by the Secretary of the Army.

SPECIAL FEES

An Activity Fee of $3.00 is required of all ROTC Cadets to defray the cost of a name tag, cadet handbook, and the Military Ball.

CURRICULUM IN MILITARY SCIENCE

The Military Science curriculum covers four years and is divided into two courses: The Basic Course and the Advanced Course.

THE BASIC COURSE

The first two years of Military Science comprise the Basic Course which furnishes a background in basic military subjects. A minimum of three hours instruction each week is required for the MS 101 and 102 courses and minimum of four hours for courses 203 and 204.

1st Year

MS 101 Military Science I **1½ cr.**
Instruction in Organization of the Army and ROTC; Individual Weapons and Marksmanship; and Leadership.

MS 102 Military Science I **1½ cr.**
Instruction in United States Army and National Security; and Leadership.

2nd Year

MS 203 Military Science II **1½ cr.**
Instruction in Map Reading; Introduction to Tactics and Operations; and Leadership.

MS 204 Military Science II **1½ cr.**
Instruction in American Military History; and Leadership.

THE ADVANCED COURSE

The second two years comprise the Advanced Course, each year of which consists of 105 hours of instruction in Military subjects and 45 hours of instruction in selected academic fields approved by the Professor of Military Science. Students who clearly demonstrate during their attendance in the Basic Course the qualities necessary to become a Reserve Officer of the U.S. Army may be selected for the Advanced Course.

For admission to this course a student must fulfill the following: have completed the Basic Course; be selected by the Professor of Military Science and the President of the University; be 26 years of age or under at time of enrollment; meet physical requirements as established by the Department of the Army; execute a contract with the Government to finish the course, attend a six-week summer camp and accept a commission in the United States Army Reserve, if tendered. When the contract is signed, completion of the Advanced Course becomes a requirement for graduation unless the contract is cancelled by the Department of the Army.

3rd Year

MS 305 Military Science III **3 cr.**
Instruction in Principles of Leadership; Military Teaching Methods; Branches of the Army; and Leadership Laboratory.

MS 306 Military Science III **3 cr.**
Instruction in Infantry Tactics and Communication; Pre-Camp Orientation; Physical Training; Counterinsurgency; and Leadership Laboratory.

4th Year

MS 407 Military Science IV **3 cr.**
Instruction in Operations, Company Duties; Army Administration; Military Law; and Leadership Laboratory.

MS 408 Military Science IV **3 cr.**
Instruction in Service Orientation; Role of the United States in World Affairs; Map Reading; Airmobile Operations; and Logistics.

SUMMER CAMP

The six week summer camp is usually attended by students upon completion of the first year of the Advanced Course; although, under certain circumstances cadets may attend summer camp following completion of the Advanced Course. Time at camp is devoted to the practical application and demonstration of principles and theories taught during the school year. While at camp each student will receive lodging, subsistence, uniforms, medical care, reimbursement for travel and pay in the amount of one hundred and fifty-one dollars and ninety-five cents ($151.95) per month.

MUSIC DEPARTMENT

HUGH JOHNSON, Chairman

WILLIAM R. BECKER
ROBERT E. BERNAT
DAVID T. BORST
WALLIS D. BRAMAN
ROBERT W. BURGGRAF
CATHERINE C. CARL
CHRISTINA CHA
CHARLES A. DAVIS
DANIEL DiCICCO
GLADYS DUNKELBERGER
OLIVE M. FORNEAR
EDWIN J. FRY
WALTER A. GOLZ
ARVILLA T. HARROLD
DELIGHT HEDGES
H. EUGENE HULBERT
DOMINIC J. INTILI
C. DAVID McNAUGHTON
RUSSEL C. NELSON
GARY J. OLMSTEAD
JANE V. OLMSTEAD
LAURENCE J. PERKINS
DANIEL PERLONGO
PETER J. POPIEL
ROBERT D. REYNOLDS
NICOLO A. SARTURI
ANN M. STAPLES
JAMES G. STAPLES
ELIZABETH D. STEWART
LAWRENCE C. STITT
PHILIP J. SWANSON
RICHARD E. THORELL
EVA VOUKLIZAS
J. HERBERT WILDEBOOR

COURSE DESCRIPTIONS

GENERAL EDUCATION

Mus 101 Introduction to Music **3 s.h.**

The course "Introduction to Music" presumes no technical background, but does utilize as fully as possible the varied musical experiences of each individual to help him extend his interest as far as possible. One or two field trips are planned each semester to Pittsburgh to attend the Pittsburgh Opera and/or the Pittsburgh Symphony. In addition, various concerts of college organizations, cultural life events, and visiting artist concerts are required to augment the listening experiences of the student.

MUSIC THEORY AND COMPOSITION

Mus 111 Sight Singing I **2 s.h.**

Sight Singing I is designed to develop the student's skill at interpreting written music by the use of his own voice. Areas of study include: all major and minor scales; treble, alto, tenor, and bass clefs; all diatonic intervals; duple and triple meter with rhythmic dictation drills; phrase-wise thinking; and elementary form analysis. The sol-fa syllables with movable do are used.

Mus 112 Sight Singing II **2 s.h.**

Prerequisite: Sight Singing I with a mark of C or better.

A continuation of the development of skills in the areas of Sight Singing I, as well as the following additional areas: sensitivity to intonation, part singing, compound meters, written melodic and rhythmic dictation.

Mus 113 Ear Training I **1 s.h.**

Ear Training I involves dictation skills and notation in the following areas: primary harmonies in all inversions, and melodic dictation with implied and actual harmonies.

Mus 114 Ear Training II **1 s.h.**

Prerequisite: Ear Training I with a mark of C or better.

A continuation of the development of dictational and notational skills of Ear Training I as well as the following areas: secondary triads, seventh chords, and modulation to related keys.

Mus 115 Theory I **3 s.h.**
Mus 116 Theory II **3 s.h.**
Mus 215 Theory III **3 s.h.**

(three consecutive semesters)

A study of the compositional devices of the 18th and 19th centuries. Emphasis upon melodic, harmonic, rhythmic, and formal structures, with occasional reference to contrapuntal implications. The student is aided in gaining a mastery of these devices through written exercises for various media, analysis of examples in composer's works, and performance at the keyboard.

Mus 216 Theory IV **3 s.h.**

Prerequisite: Theory I, II, III.

A study of the compositional devices of the latter half of the 19th century and first half of the 20th century. The student is aided in gaining a mastery of these devices through the same means indicated above for Theory I, II, III.

Mus 217 Keyboard Harmony I **1 s.h.**

Prerequisite: A nominal amount of facility at the keyboard.

Keyboard Harmony I is designed to develop keyboard skills in the student so he may realize and produce in sound the basic harmonic progressions involved in the primary chords in all inversions.

Mus 218 Keyboard Harmony II **1 s.h.**

Prerequisite: Keyboard Harmony I.

A continuation of Keyboard Harmony I involving skills with secondary chords and their dominants, chromatic harmony and more complex progressions.

Mus 304 Form and Analysis I **2 s.h.**

Prerequisite: Theory IV.

A thorough study of the smaller forms of music. The student will analyze as many of the smaller forms as possible, both through listening and reading of the works.

Mus 305 Form and Analysis II 2 s.h.

Prerequisite: Form and Analysis I.

A thorough study of the larger forms of music in the same manner as Form and Analysis I.

Mus 306 Counterpoint I 2 s.h.

Prerequisite: Theory IV.

After an intensive study and analysis of the style of the 16th Century contrapuntal writing, the student will do original writing using the techniques and devices of the period. As time permits, the same approach will be made to explore the style of the 17th and 18th Century composers.

Mus 307 Counterpoint II 2 s.h.

Prerequisite: Counterpoint I.

A continuation of the study, analysis, and restricted writing of the 17th and 18th Century composers. Consideration will be given to the free contrapuntal techniques used by later composers.

Mus 308 Fugue and Canon 2 s.h.

Prerequisite: Counterpoint I.

The application of contrapuntal techniques within these two specific forms through analysis, assigned exercises, and creative writing.

Mus 309 Orchestration I 2 s.h.

Prerequisite: Theory IV.

All the instruments of the orchestra are studied from the viewpoint of their contribution to the total sound of the ensemble. Ranges and timbres are considered as well as actual arranging of selected music for each section, full orchestra, band, and other instrumental organizations. Whenever possible, the arrangements are performed in class or by one of the organizations of the college.

Mus 310 Orchestration II 2 s.h.

Prerequisite: Orchestration I.

A continuation of Orchestration I with more emphasis placed on larger projects and the programming of outstanding works in university concerts.

Mus 315 Theory V 3 s.h.

Prerequisite: Theory IV.

Many of the harmonic idioms of the past half century will be considered, such as: comparative analysis of dissonance; polytonality; polyrhythms; atonalism and the 12 tone system; and microtonalism. Original writing in these styles will be required.

Mus 411 Composition I 2 s.h.

Prerequisite: Theory IV.

Instruction in Composition I will of necessity be highly

individualized due to the uniqueness of the creative process. Compositional devices will be studied through the analysis of works by major composers. Students will do original works in the smaller forms of music.

Mus 412 Composition II **2 s.h.**

Prerequisite: Composition I.

A continuation of Composition I with the emphasis placed more on the larger forms of music. Outstanding works will be programmed by university organizations.

MUSIC LITERATURE AND HISTORY

Mus 220 Music Literature I **2 s.h.**

Major works of the Eighteenth Century will be studied and analyzed as to form, style, and their place in the musical world of the various periods.

Mus 221 Music Literature II **2 s.h.**

Major works of the Nineteenth Century will be covered in the same manner as Music Literature I.

Mus 301 History of Music I **3 s.h.**

A study of the development of music from the ancient Greek and Roman cultures through the Baroque period. Although the approach is an historical one, considerable analytic listening is required.

Mus 302 History of Music II **3 s.h.**

Starting with the Eighteenth Century with Haydn and Mozart, History of Music II is the study of the development of music to the present. Analytic listening is required through all available sources.

Mus 316 Literature of the Major I **2 s.h.**

The student will research the literature of his major instrument or voice with the assistance of his private instructor and the instructor of the course.

Mus 317 Literature of the Major II **2 s.h.**

The student will continue his research from Literature of the Major I.

Mus 320 Music of the Ancient World **3 s.h.**

Prerequisites: History of Music I and II.

A concentrated study of music from the early Greeks up to the Middle Ages, including considerable emphasis on plainsong or Liturgical music of the early church.

Mus 321 Music of the Middle Ages **3 s.h.**

Prerequisites: History of Music I and II.

Starting with the Jongleurs, Troubadors, and Trouveres of the Early Middle Ages, this course deals with the literature of music through English and Burgundian Schools at the close of the Middle Ages.

Mus 322 Renaissance Music 3 s.h.

Prerequisites: History of Music I and II.

Beginning with Ockeghem and ending with Palestrina and his contemporaries, the music literature of this age is carefully and thoroughly studied.

Mus 323 The Baroque Era 3 s.h.

Prerequisites: History of Music I and II.

The Baroque Era extends from Monteverdi through Bach and Handel, and considers both vocal and instrumental forms, styles, and practices of the era.

Mus 324 Eighteenth Century Music 3 s.h.

Prerequisites: History of Music I and II.

Although Mozart and Haydn comprise the greater portion of 18th Century music, the Rococo Period involves D. Scarlatti and C. P. E. Bach as well. The mature development of the sonata and symphony comprise a considerable portion of this study.

Mus 325 The Early Romantic Period 3 s.h.

Prerequisites: History of Music I and II.

Beethoven, Schubert, Rossini, Weber, Mendelssohn, Berlioz, Schumann, and Chopin are the major composers to be studied in the Early Romantic Period.

Mus 326 The Late Romantic Period 3 s.h.

Prerequisites: History of Music I and II.

Wagner, Verdi, Glinka, Bruckner, Meyerbeer, Liszt, Gounod, Brahms, Offenbach, Smetana, J. Strauss, Grieg, Bizet, Moussorgsky, Saint-Saens, Tschaikowsky, Massenet, Franck, Borodin, Rimski-Korsakoff, Wolf, R. Strauss, Mahler, Faure, Puccini, Dvorak, MacDowell, and Elgar are the major composers of this study.

Mus 420 Contemporary Music 3 s.h.

Prerequisites: History of Music I and II.

Beginning with Debussy, Ravel and the other impressionists, touching on Schoenberg, Stravinsky, Webern, Honneger, Milhaud, et al. Contemporary Music ends with today and tomorrow. Various trends, styles, techniques are noted; judgments are attempted on the more experimental forms; and limited predictions of trends are ventured.

Mus 421 American Music 3 s.h.

Prerequisites: History of Music I and II.

American Music is a study of the History and Literature of Music in America from 1600 to the present day. Early American musical heritages are traced from pre-revolutionary America to our day.

CONDUCTING

Mus 311 Fundamentals of Conducting **2 s.h.**

Emphasis will be placed on the fundamental physical skills of the conducting process. Various beat patterns will be mastered and elementary score reading and interpretation will be considered.

Mus 312 Choral Conducting **2 s.h.**

Prerequisite: Fundamentals of Conducting.

Choral Conducting will provide the opportunity for the student to apply his basic conducting techniques to the choral area. Each student will conduct the rest of the class in many of the standard choral works of the literature. Also a survey of suitable literature, organizational problems, voice testing, rehearsal techniques, program building, interpretation, and diction will be included.

Mus 313 Instrumental Conducting **2 s.h.**

Prerequisite: Fundamentals of Conducting.

Instrumental Conducting will provide the student with the opportunity to apply his basic conducting skills to the various instrumental ensembles. Each student will conduct the rest of the class as well as the available instrumental ensembles in the department. Also a survey of suitable literature, organizational problems, audition procedures, rehearsal techniques, program building, and interpretation will be considered.

Mus 401 Choral Score Reading **2 s.h.**

Prerequisites: Harmony IV, and Choral Conducting.

Choral Score Reading is designed for the student who wishes to further develop his skills at interpreting choral scores. Some of the units are: reading 3, 4, 5, and 6 line scores; problems of editing music of various periods; further development of skill with various clefs; developing a sense of tempi; and practice in score reduction at the keyboard.

Mus 402 Instrumental Score Reading **2 s.h.**

Prerequisites: Harmony IV, and Instrumental Conducting.

Instrumental Score Reading serves a similar purpose. Some of the units are: developing skill in reading 12 lines to full orchestral or band scores of 32 lines; editing and bowing problems of various periods; developing skill with clefs and transpositions; developing a sense of tempi; and reducing full scores at the keyboard.

MUSIC EDUCATION

El 211 Music for the Elementary Grades **2 s.h.**

(See the Elementary section for a course description.)

El 212 Teaching Music in the Elementary Grades **3 s.h.**

(See the Elementary section for a course description.)

Mus 204 Rhythmic Movement I (Eurhythmics I) **1 s.h.**

Rhythmic Movement I develops musical perception through physical response; stimulates creative imagination through group and individual interpretations; and promotes bodily coordination, poise, and precision.

Mus 205 Eurythmics II **1 s.h.**

Prerequisite: Rhythmic Movement I.

Rhythmic Movement II continues the skill development begun in Eurythmics I and further provides each student with the opportunity to direct others; to master and to teach a repertory of folk dances; and to organize the work to fit the needs and capacities of elementary pupils.

Mus 331 Elementary Methods **2 s.h.**

Included in Elementary Methods are the following topics: analytical study of texts, recordings, equipment, instruments, and other material suitable to musical development of elementary pupils; proper treatment of the child voice; selection, use, and teaching of rote songs; rhythmic activities and development; music reading; part singing; planning and organization; guided observations; and evaluation techniques.

Mus 333 Secondary Methods **2 s.h.**

The following topics will be treated: the General Music Class, choral organizations, the changing voice, techniques of instruction including team teaching and programmed learning, high school theory courses, high school music literature courses, scheduling, administrative problems, curriculum development, evaluation of materials and equipment, evaluative techniques, and guided observations.

Mus 334 Instrumental Methods **2 s.h.**

A treatment of the necessary understandings, techniques, equipment, and materials necessary to develop an effective instrumental music program in the public schools. Demonstrations and laboratory work are designed to give the student the competencies needed to meet successfully the various teaching situations in instrumental music from the grades through the high school. Guided observations are required.

Mus 405 Piano Pedagogy **2 s.h.**

Prerequisites: Junior Standing in Piano, and a piano major or minor.

A survey of all current and significant past developments in the teaching of piano both privately and in small and large classes. The various piano methods are analyzed, compared, criticized, and adapted to each individual's use.

Mus 406 Voice Pedagogy **2 s.h.**

Prerequisites: a voice major or minor, and permission of the instructor.

A survey of all current and significant past developments in the teaching of voice both privately and in small and large classes. The various vocal methods are analyzed, compared, criticized, and adapted to each individual's use.

Mus 407 Master Class in Organ **2 s.h.**

Prerequisites: for organ majors only with the organ instructor's permission.

From time to time the organ instructor will accept from four to eight organ majors for this course. Every student will observe every other student's instruction and demonstrations of various techniques of teaching organ will be given.

Mus 408 Marching Band Techniques **2 s.h.**

The following topics are considered; building a band show; alignment of ranks and files; development of a standard pace of 6 to 5 and 8 to 5; selection of music; instrumentation; techniques of developing morale; and fundamentals of uniform design.

Ed 421 Student Teaching **12 s.h.**

The music major will begin his practice teaching with observations and various simple teaching assignments, gradually assuming greater teaching responsibilities on the elementary, junior and senior high school levels in instrumental and vocal music. A university faculty member coordinates the work of the student teacher and his school supervisor.

Ed 422 Professional Practicum (Including School Law) **2 s.h.**

Significant problems of an advanced nature, and closely related to student teaching, are introduced in order to insure further professional growth. Observing of other teaching situations, reading of books and professional journals, along with reports and discussions at conferences, will aid in this growth.

APPLIED MUSIC

Class Instruction

The following courses are designed to acquaint the student with basic skills in each particular area. The classes are conducted in a similar manner to those in the public schools but for different purpose.

Mus 151 Class Voice I ..... **1 s.h.**
Mus 152 Class Voice II ..... **1 s.h.**
Mus 153 Class Piano I ..... **1 s.h.**
Mus 154 Class Piano II ..... **1 s.h.**
Mus 155 Strings Seminar ..... **1 s.h.**
Mus 156 Class Strings ..... **1 s.h.**
Mus 157 Class Percussion I ..... **1 s.h.**
Mus 158 Class Percussion II ..... **1 s.h.**
Mus 159 Brass Seminar ..... **1 s.h.**

Mus 160 Class Brass ..... **1 s.h.**
Mus 161 Woodwind Seminar ..... **1 s.h.**
Mus 162 Class Woodwinds ..... **1 s.h.**
Mus 353 French Diction ..... **2 s.h.**
Mus 354 German Diction ..... **2 s.h.**
Mus 475 Music Laboratory ..... **0 s.h.**

PRIVATE INSTRUCTION

Two semester hours credit for each half-hour lesson and ten hours practice per week for one semester. The instructor will determine which series applies.

100-150 Series, for Freshmen
200-250 Series, for Sophomores
300-350 Series, for Juniors
400-450 Series, for Seniors

Available in the following performance areas:

Piano (Pno)	01	Clarinet (Clar)	11
Organ (Ogn)	02	Oboe (Ob)	12
Harpsichord (HpCh)	03	Bassoon (Bssn)	13
Harp (Hrp)	04	Saxophone (Sax)	14
Voice (Vce)	05	Trumpet (Trpt)	15
Violin (Vln)	06	French Horn (FrH)	16
Viola (Vla)	07	Trombone (Trb)	17
Cello (Cel)	08	Baritone Horn (BaH)	18
Bass Viol (BsV)	09	Tuba (Tba)	19
Flute (Fl)	10	Percussion (Perc)	20

Course Description

APPLIED MUSIC LEVELS FOR THE PIANO (Section 01)

Mus 100-150 Section 01
Freshman—Grades III to IV

All major scales, four octaves in sixteenth notes at M.M. 90-96, and all root position arpeggios four octaves in sixteenth notes at M.M. 90-96 will be studied. The following pieces from the piano repertoire will be studied: Bach, Two and Three-part Inventions; Bach, Sonatinas; Beethoven Sonatas; Haydn Sonatas; Kuhlau Sonatas; Mozart Sonatas; Mendelssohn, Songs without words; Chopin, easier Nocturnes, Preludes, Waltzes, and Polonaises; Modern pieces such as, Kabalevsky's Sonatina, Debussy's Arabesque, and Tcherepnin's Bagatelle. The student will be required to memorize at least two pieces.

Mus 200-250 Section 01
Sophomore—Grades IV to V

All major and three forms of the minor scales, four octaves in sixteenth notes at a quarter note equaling M.M. 120, and all

root position major and minor arpeggios four octaves in sixteenth notes at a quarter note equaling M.M. 120 will be studied. The following pieces from the piano literature will be studied: Bach, Three-part Inventions; Bach French Suites; Beethoven Sonatas; Haydn Sonatas; Mozart Sonatas; Schubert, Impromptus, Moments, Musicaux; Chopin, Nocturnes and Polonaises; Schumann, Op. 2, 82, 89; Works of impressionist and modern composers such as Debussy, Bartok, Gershwin, Dello Joio, Kabalevsky, and Shostakovich. Continued memorization will take place as required by the instructor.

Mus 300-350 Section 01
Junior-Grades V to VI

Continued technical development of all scales and arpeggios will take place as required by the instructor. The following material from the piano repertoire will be studied: Bach, Preludes and Fugues; Bach Suites; Handel Suites; more difficult Sonatas of Beethoven, Haydn, Mozart, and of the Romantic composers; easier pieces of Brahms; Schumann, Faschingsschwank; pieces by impressionist and contemporary composers. Further memorization will take place as required by the instructor.

Mus 400-450 Section 01
Senior—Grades VI to VII

With balanced programming in mind, Baroque, Pre-classic, Classic, and Modern repertoire will be selected. Upon approval by a faculty hearing, a full or half recital may be given.

APPLIED MUSIC LEVELS FOR THE ORGAN (Section 02)

Mus 100-150 Section 02
Freshman—Grades III to IV

Study from the following composers' beginners books will be emphasized: Harold Gleason, Richard Enright, Flor Peeters (Little Organ Book), and David Johnson. Pieces from the organ literature such as Bach, Little Preludes and Fugues; Bach, Orgelbuchlein; Gordon Young, Baroque Suite; Wilbur Held, Nativity Suites; Max Reger, Chorale Preludes; and Healy Willan, Hymn Preludes will be studied. In addition, the Trios of Rheinberger, Alcrechtberger, and Schneider will be used to supplement the first year program. Selected Hymns will be studied as required by the instructor.

Mus 200-250 Section 02
Sophomore—Grades IV to V

Study of organ collections such as Karg-Elert, Chorale-Improvisations; Vierne, 24 pieces in Free Styles; Walcha, 25 Chorale-Preludes and miscellaneous pieces such as Franck, Cantabile; Boellmann, Gothique Suite; and Langlais, Neuf

Pieces will take place. The following organ works of Bach will be studied: more difficult Chorale-Preludes from the Orgelbuchlein, 12 Chorale-Preludes-Bach (Edited by Glynn), Prelude and Fugue in E Minor (The Cathedral), Fantasia in C Minor, Prelude and Fugue in C Major, and the Prelude in C Minor. Continued selected Hymns will be studied as required by the instructor.

Mus 300-350 Section 02
Junior—Grades V to VI

Continued study will be made of the organ literature with emphasis on the following material: Franck—Fantasie in C, Fantasie in A, and Piece Heroique; Brahms, Chorale-Preludes; Bach—Toccata and Fugue in D Minor, Prelude in D Major, Prelude in F Minor, and the First Trio Sonata; Historical Organ Recitals Vol. 1, Forerunners of Bach (Edited by Bonnet); Dupre, Antiphons; Sowerby, Carillon; Langlais, Suite Medievale; and Mendelssohn Sonatas. Some transposition of Hymns will take place as required by the instructor.

Mus 400-450 Section 02
Senior—Grades VI to VII

Hymn transposition, modulations, and the adaptation of piano solos to the organ will take place as required by the instructor. Further study will be made of the organ repertoire with emphasis on the following material: Franck, Three Chorales; Allain, Litanies; Bach—Toccata in D Minor (Dorian), Prelude and Fugue in A Minor, Prelude and Fugue in B Minor, Fugue in E Flat Major (St. Anne's), Trio Sonatas, and Schubler Chorale-Preludes; Vierne, Finale from the First Symphony and Pieces of Fantasie; and Mulet, Carillon-Sortie and Thou Art the Rock.

APPLIED MUSIC LEVELS FOR HARPSICHORD (Section 03)

See instructor.

APPLIED MUSIC LEVELS FOR HARP (Section 04)

See instructor.

VOICE

REQUIREMENTS FOR ADMISSION

1. The student should be able to sing simple standard classic art songs with acceptable tone quality and intonation.
2. Three selections should be prepared all of which will be sung in English. These may be folk songs or selections from any standard Art Song Collection. (Popular or "hit" tunes are unacceptable.)

3. A level of proficiency will be determined at the time of entrance.

4. All transfer students must be heard by the voice staff jury.

PRIVATE INSTRUCTION

1. The level of each student will be determined by the voice staff jury at the end of each semester.

2. The specific degree requirements for undergraduate students are explained as follows. Voice-piano majors must have a repertoire in English and in two foreign languages and shall have attained Level VI as a minimum for the Bachelor of Science Degree with a major in Music Education.

APPLIED MUSIC LEVELS FOR VOICE (Section 05)

Mus 100-150 Section 05
Freshman—Grades III to IV

All American and English folk literature and an introduction to Italian will be studied. The student will be required to sing the Romantic Period song literature in Italian. Each student will build a repertoire of sacred and secular songs as required by the individual teachers.

Mus 200-250 Section 05
Sophomore—Grades IV to V

German folk songs and simple art songs having suitable tempi and language facility will be studied. An introduction will be made to Haydn, Handel, and less difficult songs by Purcell. There will be a continuation of the Italian classic repertoire and less difficult Lieder. A thorough study of the Romantic and the Contemporary English songs of greater musical complexity will be made. The student's performance should demonstrate an expansion of musical tastes and an appreciation of vocal literature.

Mus 300-350 Section 05
Junior—Grades V to VI

At this level the student must display a grasp of vocal techniques enabling him to meet the approval of the voice staff. An introduction will be made of Romantic operatic arias, easy oratorial, and simple songs in French. The student will continue to broaden his repertoire through continued study of Italian and more difficult German Lieder. The student will also sing arias from the Baroque era of composers, including Bach, Handel, Scarlatti, and Pergolesi.

Mus 400-450 Section 05
Senior—Grades VI to VII

The student's technical mastery will become evident in Italian, German, and French. In addition, the student may study any special interests for his own enrichment. (Such as language facility for vocal literature in Spanish, Russian, etc.) Recital preparation and a continuation of technique and any specialization will also take place.

APPLIED MUSIC LEVELS FOR THE VIOLIN (Section 06)

Mus 100-150 Section 06
Freshman—Grades III to IV

The Flesch Scale System will be used to study selected three octave scales and scales in thirds, sixths, and octaves. The following Etudes will be used: Wohlfahrt, Op. 45 Book II; Kayser, Studies Op. 20; Hofmann, Double-Stop Studies; Kreutzer, 42 Studies. A study of solo material will be made with emphasis on Sonatinas by Schubert and Telemann, and Concertos by Seitz (Nos. 1 and 3), Accolay, and Vivaldi (A Minor).

Mus 200-250 Section 06
Sophomore—Grades IV to V

Continuation of the Flesch Scale System will be used to study selected three octave scales and scales in thirds, sixths, octaves, and harmonics. Etude study will include Kayser's Studies Op. 20 and Kreutzer's 42 Studies. Continued study of the solo repertoire will be made with emphasis on Sonatas by Handel, Mozart, and Vivaldi; and Concertos by Bach, Haydn, Nardini, and Viotti.

Mus 300-350 Section 06
Juniors—Grades V to VI

Continuation of the Flesch Scale System will be used to study selected three octave scales and scales in thirds, sixths, octaves, tenths, and harmonics. Etude study will include Kreutzer's 42 Studies and Fiorillo's 36 Etudes. A study of the solo repertoire will include Sonatas by Corelli, Handel, Mozart, Beethoven, and Romances; and Concertos by Bach, Haydn, Mozart (G Major), and Viotti.

Mus 400-450 Section 06
Senior—Grades VI to VII

Continued technical development of the Flesch Scale System will take place as required by the instructor. The following Etudes will be used: Kreutzer, 42 Studies; Fiorillo, 36 Etudes; Rode, Caprices. Further study of the solo literature will be made with emphasis on Sonatas by Bach (violin-piano, and solo partita in E Major), Corelli, Beethoven, and Mozart (D Major), and Saint Saens (B Minor); and Paganini's Pertual Motion.

APPLIED MUSIC LEVELS FOR THE VIOLA (Section 07)

Mus 100-150 Section 07
Freshman—Grades III to IV

The Flesch Scale System will be used to study selected three octave scales and scales in thirds, sixths, and octaves. The following Etudes will be used: Sitt, Viola Method, Etudes; Bruni, 25 Studies; Kreutzer, 42 Studies. A study of solo material will be made with emphasis on Sonatas by Marcello and Telemann, and Concertos by Seitz (Nos. 1 and 3) and Accolay.

Mus 200-250 Section 07
Sophomore—Grades IV to V

Continuation of the Flesch Scale System will be used to study selected three octave scales in thirds, sixths, octaves, and harmonics. Etude study will include Kreutzer's 42 Studies and Lifschey's Double-Stop Studies. Continued study of the solo repertoire will be made with emphasis on Sonatas by Mozart and Telemann, and Concertos by Handel, Hoffmeister, and Telemann.

Mus 300-350 Section 07
Junior—Grades V to VI

Continuation of the Flesch Scale System will be used to study selected three octave scales and scales in thirds, sixths, octaves, tenths, and harmonics. The following Etudes will be used: Kreutzer, 42 Studies; Lifschey, Double-Stop Studies; Fiorillo, 36 Etudes. A study of the solo repertoire will include Sonatas by Bach (Gamba and piano, and Solo Cello Suites), Boccherini, Honegger, Schumann, and Marchenbilder; and Concertos by Handel, Hoffmeister, Rolla, and Stamitz.

Mus 400-450 Section 07
Senior—Grades VI to VII

Continued technical development of the Flesch Scale System will take place as required by the instructor. The following Etudes will be used: Kreutzer, 42 Studies; Fiorillo, 36 Etudes; Rode, Caprices. Further study of the solo literature will be made with emphasis on Sonatas by Bach (Gamba and Piano, and Solo Cello Suites), Brahms and Hindemith; Concertos by Boccherini, Handel, and Hindemith; and Bloch's Suite Hebraique.

APPLIED MUSIC LEVELS FOR THE VIOLONCELLO (Section 08)

Mus 100-150 Section 08
Freshman—Grades III to IV

Scales through the fourth position and the ability to tune the violoncello will be studied as required by the instructor.

The following Etudes will be used: Werner, Studies, Book 1; Dotzauer - Klingenberg, Studies, Book II; Grutzmacher, Daily Exercises; Grutzmacher, Technology, Book I.

Mus 200-250 Section 08
Sophomore—Grades IV to V

Scales through the seventh position in three octaves will be studied as required by the instructor. Continued Etude study will include Franchomme's 12 Studies. A study of solo material will be made with emphasis on Vivaldi Sonatas, Handel Sonatas, Goltermann's Concerti Nos. 3 and 4, and selected short pieces.

Mus 300-350 Section 08
Junior—Grades V to VI

All scales in four octaves and emphasis on varied bowings will be studied as required by the instructor. Continued Etude study will include Duport's Etudes. Continued study of the solo literature will be made with emphasis on Romberg's Concerto No. 2, Sonatas by Sammartini and Breval, Saint Saens' Concerto, and Bach's Suite in G Major.

Mus 400-450 Section 08
Senior—Grades VI to VII

All major and minor scales in four octaves emphasizing thirds, sixths, and octaves will be studied as required by the instructor. Franchomme's 12 Caprices, Boellmann's Symphonic Variations, and Bach's Suite in D Minor will be studied by the student.

APPLIED MUSIC LEVELS FOR STRING BASS (Section 09)

Mus 100-150 Section 09
Freshman—Grades III to IV

All scales and arpeggios in two octaves will be studied as required by the instructor. A general review of selected material from the Simandl Method, Book I, a thorough knowledge of all positions through VII, and an introduction to the thumb position will be made. The Simandl, Etudes and the Sturm, 110 Studies (Vol. 1) will be studied by the student. A study of solo material will be made including Oscar Zimmerman's Solos for Bass, Marcello's Sonata in E Minor, the Galliard Sonatas, ensemble material, and Indiana University Symphony bass parts of works currently performed.

Mus 200-250 Section 09
Sophomore—Grades IV to V

All scales and arpeggios in three octaves will be studied as required by the instructor. The following Etudes will be used: Simandl, New Method, Book II; Sturm, 110 Studies, Book II; Hrabe, Studies; Storch-Hrabe, Studies. Continued study of

the solo repertoire will be made with emphasis on Sonatas of Marcelli, Vivaldi, and Corelli; Capuzzi's Concerto; orchestral studies; ensemble material; and Indiana University Symphony bass parts of works currently performed.

Mus 300-350 Section 09
Junior—Grades V to VI

All scales and arpeggios are required with a continuation of technical development. Simandl New Method, Book II and Storch-Hrabe Studies, Book II will be studied by the student. Solo literature with emphasis on Baroque Sonatas, contemporary works, orchestral studies, ensemble material, and Indiana University Symphony bass parts of works currently performed will be studied.

Mus 400-450 Section 09
Senior—Grades VI to VII

Continued technical development will take place as required by the instructor. There will be a review of selected Etudes previously studied and additional study of the Nanny, 20 Etudes. Further study of the solo repertoire will be made with emphasis on Baroque works, the Hindemith Sonata, contemporary works, ensemble material, and Indiana University Symphony bass parts of works currently performed. Proper recital preparation will be taken if the student is eligible.

APPLIED MUSIC LEVELS FOR THE FLUTE (Section 10)

Mus 100-150 Section 10
Freshman—Grades III to IV

Major and minor scales in all keys will be studied as required by the instructor. Representative material to be used: Eck, Tone Development; Berbeguier, 18 Etudes (Barrere); Andersen, 24 Studies, Op. 33. A study of solo material with emphasis on Handel's Seven Sonatas will be made. The Hugues Duets, Volume II and the Kuhlau Duets, Op. 10 will supplement the first year program.

Mus 200-250 Section 10
Sophomore—Grades IV to V

Seventh Chords and arpeggios in all keys will be studied as required by the instructor. Representative material to be used: Maquarre, Daily Exercises; Moyse, Tone Studies; Andersen, 24 Studies, Op. 33; Karg-Elert, 30 Caprices, Op. 107. Continued study of the solo repertoire will be made including the Mozart Concertos in G and D. The Kuhlau Duets, Op. 80 and 81 and the Mozart Duets will supplement the second year program.

Mus 300-350 Section 10
Junior—Grades V to VI

Continued technical development will take place as required by the instructor. Representative material to be used: Andersen, Studies, Op. 30 and 63; Taffanel-Gaubert, 17 Daily Studies. Study of the solo literature with emphasis on the Bach Seven Sonatas and standard solo literature will be made. The Kuhlau Duets, Op. 102 and 87 will supplement the third year program.

Mus 400-450 Section 10
Senior—Grades VI to VII

Representative material to be used: Bach Studies; Andersen Studies, Op. 15; Jean-Jean, 18 Modern Etudes. Further study of the solo repertoire with emphasis on French solo literature and selected orchestral studies will take place. The Kuhlau Duets, Op. 39 will supplement the fourth year program.

APPLIED MUSIC LEVELS FOR THE CLARINET (Section 11)

Mus 100-150 Section 11
Freshman—Grades III to IV

All major and minor scales in two octaves will be studied as required by the instructor. Selected studies from Blancou, Schmidt (Lazarus Vol. II), and Perier's 20 Etudes will be studied by the student. A study of solo material will be made with emphasis on Hitė's 18 Short Pieces for Clarinet and Piano and selected solos from Concert and Contest Collections.

Mus 200-250 Section 11
Sophomore—Grades IV to V

All scales and arpeggios are required with a continuation of technical development. The following Etudes will be used: Baermann, Div. III; Perier, Etudes De Genre et D'Interpretation, Book I and II; Jean Jean, Progressive Studies, Vol. I and II; Rose, 32 Etudes. Continued study of the solo repertoire will be made with emphasis on Stubbin's Selected Solos from Recital Pieces.

Mus 300-350 Section 11
Junior—Grades V to VI

Continued technical development will take place as required by the instructor. The following Etudes will be used: Langenus, Vol. III; Perier, Trente Etudes; Bozza, 12 Etudes. A continued study of the solo literature will be made with emphasis on the Mozart Concerto, Weber Concertos, and moderately difficult contemporary concerti and sonatas.

Mus 400-450 Section 11
Senior—Grades VI to VII

Further technical development will take place as required by the instructor. The following Etudes will be used: Stark, Twenty-Four Studies in all Tonalities; Jean Jean, Sixteen Modern Etudes; and orchestral studies. Further study of the solo repertoire will be made with emphasis on Perier's Recueil De Sonates Vol. I and II; Sonatas by Brahms, Hindemith, Berstein, Martinu, and Poulenc; and chamber music of all periods.

APPLIED MUSIC LEVELS FOR THE OBOE (Section 12)

Mus 100-150 Section 12
Freshman—Grades III to IV

Major and minor scales will be studied as required by the instructor. Special tone and scale studies will be used to emphasize basic performance skills. A study of Etudes by composers such as Barret and Prestini will be made. Solo material will be studied with emphasis on Handel's Sonatas. In addition, an introduction to reed making will take place.

Mus 200-250 Section 12
Sophomore—Grades IV to V

Continued study of major and minor scales with emphasis on the study of vibrato will take place. There will be a continuation of the study of Etudes including Barret's 15 Grand Studies and Ferling's 48 Etudes. A study of the solo repertoire will include works by Telemann, Corelli, and Schumann. Continued reed making study will take place.

Mus 300-350 Section 12
Junior—Grades V to VI

All scales are required, with special studies selected by the instructor for expression and control. A continued study of Etudes by Ferling and Prestini will take place. Continued study will be made of the solo literature with emphasis on works of composers such as Haydn and Albinoni.

Mus 400-450 Section 12
Senior—Grades VI to VII

Continued technical development will take place as required by the instructor. Further study of Etudes by Gillet and Hugot will take place. The study of the solo repertoire will continue with emphasis on works of composers such as Mozart and Hindemith.

APPLIED MUSIC LEVELS FOR THE BASSOON (Section 13)

Mus 100-150 Section 13
Freshman—Grades III to IV

Major and minor scales in all keys will be studied as required by the instructor. The fundamentals of the bassoon in-

cluding embouchure, care of instrument, breathing, posture, and tone will be emphasized. An introduction to reed making will take place. A study of Weissenborn's Method for the Bassoon Vol. I & II will be made. Solo repertoire with emphasis on Cohen's Danse Grotesque, Kesner's Clown Festival, and Mozart's Bassoon Concerto (Third Movement) will be studied.

Mus 200-250 Section 13
Sophomore—Grades IV to V

Seventh chords and arpeggios in all keys will be studied as required by the instructor. A continuation of the fundamentals of the bassoon will take place. The student will be required to perform on the reeds he makes. A study of Weissenborn's Fifty Advanced Studies will be made. Continued study will be made of the solo literature with emphasis on the Galliard Sonatas (Vol. I and II), Bach's unaccompanied Violoncello Suites, Mozart's Bassoon Concerto in B♭ (First Movement), and Schoenbach's Solos for the Bassoon Player.

Mus 300-350 Section 13
Junior—Grades V to VI

Continued study of reed making will take place. The L. Milde Studies in All Keys (Op. 24) and the L. Milde-Kovar Concert Studies (Vol. I) will be studied by the student. Continued study will be made of the solo repertoire with emphasis on Bourdeau, Premier Solo; Bach, unaccompanied Violoncello Suites; Phillips, Concert Piece; and Hindemith, Sonata for Bassoon.

Mus 400-450 Section 13
Senior—Grades VI to VII

Further study of reed making will take place. A continued study of the solo repertoire will take place with emphasis on Mozart, Bassoon Concerto in B♭ (K. 191), memorized; Miroshinikov, Scherzo; Saint-Saens, Sonata for Bassoon; Vivaldi, Concerto in La Minor and La Notte; and orchestral excerpts.

APPLIED MUSIC LEVELS FOR THE SAXOPHONE (Section 14)

Mus 100-150 Section 14
Freshman—Grades III to IV

The fundamentals of saxophone playing with emphasis on embouchure, breathing, and alternate fingerings will be studied. The following selected studies will be used: DeVille, Universal Saxophone Method; Blemant, Melodic Studies Book I and II; Ferling, 48 Etudes. A study of solo material will be made with emphasis on Handel's Sonata #3 (Violin), Rameau's Gavotte et Minuet, Schubert's The Bee, and Whitney's Rumba.

Mus 200-250 Section 14
Sophomore—Grades IV to V

Continued fundamental work including all scales and arpeggios will take place. The following Etudes will be used: Ferling, 48 Etudes; Labanchi, 33 Concert Etudes; Rascher, 24 Intermezzi; Bassi, 27 Virtuoso Studies. Continued study of the solo repertoire will be made with emphasis on Bozza's Aria, Eccles' Sonata, Gurewich's Capriccio, Bach's 2nd Sonata (Flute), and Bilotti's Sonata.

Mus 300-350 Section 14
Junior—Grades V to VI

Continued technical development will take place as required by the instructor. The following Etudes will be used: Labanchi, 33 Concert Etudes; Bassi, 27 Virtuoso Studies; Tascher, 24 Intermezzi; Hugot, 25 Grand Etudes. Continued study will be made of the solo literature with emphasis on Debussy's Rhapsodie, Larsson's Concerto, Tcherepnin's Sonatine Sportive, and Mozart's Concerto (Bassoon).

Mus 400-450 Section 14
Senior—Grades VI to VII

Further technical development will take place as required by the instructor. Etude study will include Hugot's 25 Grand Etudes and Bozza Douze Etudes-Caprices. Further study will be made of the solo repertoire with emphasis on Creston's Sonata, Ibert's Concertino da Camera, Mazellier's Fantasie Ballet, Milhand's Scaramouche and Dubois' Divertimento. There will be preparation for a Senior Recital if the student is eligible and a study of saxophone, bassoon, and 'cello literature.

APPLIED MUSIC LEVELS FOR THE TRUMPET (Section 15)

Mus 100-150 Section 15
Freshman—Grades III to IV

A review of the basic principles of tone production, correct embouchure, proper breath control, simple articulation, control of dynamics, correct fingerings, and double and triple tonguing will be made. Major and minor scales and arpeggios in five sharps and five flats will be studied as required by the instructor. The following Etudes will be used: Edwards-Hovey, Method for Trumpet, Book I and II; Endresen, Supplementary Studies; Gower-Voxman, Advanced Method, Vol. 1; Hering, 40 Progressive Studies and 32 Etudes for Trumpet; Duhem, 36 Melodic Studies; Arban, Complete Methods; Schlossberg, Daily Drills and Technical Studies; Clarke, Technical Studies.

Mus 200-250 Section 15
Sophomore—Grades IV to V

Continued study of scales and arpeggios will take place as required by the instructor. Further study of Schlossberg's Daily Drills and Technical Studies, Clarke's Technical Studies, and Arban's Complete Method will be made, with additional study of Bousquet's 36 Celebrated Studies, Hering's 28 Etudes, Brandt's Orchestral Etudes, and Sachse's 100 Etudes. A study of the solo repertoire will be made with emphasis on the following: Thome, Fantaisie; Delmas, Chorale and Variations; Handel-Fitzgerald, Aria con Variazioni; and Barat, Andante et Scherzo. Transposition will be required of the student to trumpet in C, A, D, and F. In addition, advanced double and triple tonguing will be studied.

Mus 300-350 Section 15
Junior—Grades V to VI

Continuation of all scales, advanced double and triple tonguing, and transposition to C, A, D, F, A♭, E♭, and E trumpet will take place. Further study of Schlossberg's Daily Drill and Technical Studies and Clarke's Technical Studies will be made, with additional study of Bartold's Orchestral Studies, Brandt's Last Etudes, Williams' Transposition, and Charlier's 36 Etudes. Continued study will be made of the solo literature with emphasis on the Haydn Concerto, Bitsch's Four Variations on a Theme of Domenico Scarlatti, the Hindemith Sonata, and Enesco's Legende.

Mus 400-450 Section 15
Senior—Grades VI to VII

Further technical development will take place as required by the instructor. There will be a continuation of the Junior Grade Level Program for transposition, Etude study, and solo material.

APPLIED MUSIC LEVELS FOR THE FRENCH HORN (Section 16)

Mus 100-150 Section 16
Freshman—Grades III to IV

Fundamentals of tone production, posture (Including right hand position), embouchure, breath control, basic articulations, control of dynamics, correct fingerings, proper tone quality, and methods of muting will be studied. The following Etudes will be used: A. Horner, Primary Studies for the French Horn; J. Singer, Embouchure Building for French Horn; M. Pottag (Editor), Preparatory Melodies (from the Schantl studies); G. Pares, (revised by Whistler) Scale Studies; and Pottag and Andraud (Editors), 335 Selected Studies for French Horn, Book I. Technical development will take place of the scales and

arpeggios in keys with five sharps and five flats. A study of solo material will be made including the following: Voxman (Editor), solos from Concert and Contest Collection; Jones (Editor), Solos for the Horn Player; Mozart, Concert Rondo, K. 371; Mozart, easier movements of Horn Concertos; and Haydn, Second Concerto in D. Beginning transposition to E, E♭, and D horn will take place.

Mus 200-250 Section 16
Sophomore—Grades IV to V

Major and minor scales and arpeggios in keys with five sharps and five flats will be further developed. Transposition will be continued to G and A horn. The study of Etudes will take place with emphasis on the completion of Pottag and Andraud, 335 Selected Studies, Book I; and Pottag (Editor), Horn Passages, Book I. Continued study of the solo literature will be made including Haydn's First Concerto in D, Mozart's Third Concerto in E♭ (K. 447) and First Concerto in D (K. 412), Busser's Concert Piece in D (Op. 39), Saint-Saens Concert Piece (Op. 94), and S. Adler's Sonata (Music for Brass).

Mus 300-350 Section 16
Junior—Grades V to VI

All major and minor scales and arpeggios will be studied as required by the instructor. Transposition will be continued to C and B♭ horn. The following Etudes will be used: Pottag and Andraud (Editors), 305 Selected . . . Studies, Book II; Vander Woude (Edited by Farkas), Pre-Virtuoso Studies; and Pottag (Editor), Horn Passages, Book II. Solo repertoire with emphasis on Mozart's Second Concerto in E♭ (K. 417) and Fourth Concerto in E♭ (K. 495), Dukas' Villanelle, Chabrier's Larghetto, Beethoven's Sonata (Op. 17), B. Heiden's Sonata (1939), and R. Strauss' Concerto No. 1 (Op. 11) will be studied.

Mus 400-450 Section 16
Senior—Grades VI to VII

Continued technical development will take place as required by the instructor. Continued study of Etudes will take place with emphasis on the completion of Pottag and Andraud, 305 Selected . . . Studies, Book II; and Pottag (Editor), Horn Passages, Book III. Further study will be made of the solo repertoire with emphasis on Strauss' Concerto No. 2, G. Jacob's Concerto, R. Schumann's Adagio and Allegro (Op. 70), and P. Hindemith's Sonata (1939).

APPLIED MUSIC LEVELS FOR THE TROMBONE (Section 17)

Mus 100-150 Section 17
Freshman—Grades III to IV

Major and Minor Scales will be studied as required by the

instructor. The Remington Warm-Up Routine will be used with an emphasis on legato style. The following Etudes will be used: Rochut Melodious Etudes, Book I; Blazhevich Clef Studies; Slama, 66 Etudes. A study of solo material will be made, including the Galliard Sonatas and Solos for the Trombone Player by H. Smith.

Mus 200-250 Section 17
Sophomore—Grades IV to V

Continued study of major and minor scales, and a continuation of the Remington Warm-Up with emphasis on legato style will be made. The following Etudes will be used: Rochut Melodious Etudes, Books I & II; Blazhevich Clef Studies; Kopprasch Studies, Book I; Lafosse, School of Sight Reading, Books I & II; Blume-Fink, 36 Studies for Trombone with F Attachment. Solo repertoire with emphasis on the Vivaldi Sonatas and the Marcello Sonatas will be studied.

Mus 300-350 Section 17
Junior—Grades V to VI

Continued study of the major and minor scales, and a continuation of the Remington Warm-Up routine with emphasis on technical development and study on the B♭-F trombone will take place. The following Etudes will be used: Rochut (Becker Edition); Schroeder, 170 Studies for Cello; D. Gabrielli, 7 Ricercars. Continued study will be made of the solo literature with emphasis on Bach and Handel transcriptions, the Davison Sonata, the Sanders Sonata, and the Rimsky-Korsakov Concerto.

Mus 400-450 Section 17
Senior—Grades VI to VII

All scales are required with a continuation of technical development and work on the Remington Warm-Up routine. The following Etudes will be used: Bach Cello Suites transcribed for tenor trombone by Lafosse; Lafosse School of Sight Reading, Books III & IV; and orchestral excerpts. Further study will be made of the solo repertoire with emphasis on the Hindemith Sonata, the McKay Sonata, and the Gordon Jacob Concerto.

APPLIED MUSIC LEVELS FOR THE EUPHONIUM (Section 18)

Mus 100-150 Section 18
Freshman—Grades III to IV

Major and minor scales will be studied as required by the instructor. A definite warm-up routine will be established with emphasis on breath control and lip slurs. The following Etudes will be used: Reinhardt, Concone Studied: Arban, Complete Method; Coxman, Selected Studies; Rochut, Melodious Etudes,

Book I. The following solo material will be studied: Smith, Castleton Solo Collections; Porret, 6 Esquisses; and the Galliard Sonatas.

Mus 200-250 Section 18
Sophomore—Grades IV to V

Continued study of major and minor scales and arpeggios, and also a continuation of the warm-up routine will be made with emphasis on multiple articulations and legato studies. The following Etudes will be used: Rochut, Melodious Etudes, Book I; Arban, Complete Method; Blume, 36 Studies, Kopprasch, 60 Etudes, Book I. Study of the solo repertoire will include the Galliard Sonatas, Vivaldi-Ostrander Transcriptions of Sonatas I-VI, and Guilmant's Concert Piece.

Mus 300-350 Section 18
Junior—Grades V to VI

Continued technical development of all major and minor scales and arpeggios will take place. The following Etudes will be used: Blazhevich, Clef Studies; Rochut, Melodious Etudes, Book II; Kopprasch, 60 Etudes, Book II; Blume, 36 Studies. Continued study will be made of the solo literature with emphasis on Barat's Andante et Allegro, Vivaldi-Ostrander Transcriptions of Sonatas I-VI, and Marcello and Handel transcriptions.

Mus 400-450 Section 18
Senior—Grades VI to VII

All scales are required with a continuation of technical development. The following Etudes will be used: Blazhevich, Clef Studies; Rochut, Melodious Etudes, Book II; Kopprasch, 60 Etudes, Book II. Further study will be made of the solo repertoire with emphasis on Barat's Piece in E-flat minor, various Baroque transcriptions, and orchestral and band excerpts.

APPLIED MUSIC LEVELS FOR THE TUBA (Section 19)

Mus 100-150 Section 19
Freshman—Grades III to IV

Major and minor scales will be studied as required by the instructor. An introduction of a daily warm-up routine for embouchure development will take place. The following Etudes will be used: Rochut Melodious Etudes, Book I; Tyrrell, Advanced Studies for BB flat tuba; Reinhardt, Selection of Concone Studies. A study of solo material will be made from the Ostrander Concert Album.

Mus 200-250 Section 19
Sophomore—Grades IV to V

Continued study of major and minor scales and arpeggios, and also a continuation of the warm-up routine will be made

with emphasis on multiple articulations and legato studies. The following Etudes will be used: Rochut Melodious Etudes, Book I; Tyrrell, Advanced Studies for BB flat Tuba; Cimera, 73 Advanced Studies, Blazhevich, 70 Etudes for BB flat Tuba. Solo repertoire with emphasis on Bach-Bell, Air and Bourree; Beach, Lamento; and the Galliard Sonatas will be studied.

Mus 300-350 Section 19
Junior—Grades V to VI

Continued technical development in scales and arpeggios will take place. The following Etudes will be used: Rochut Melodious Etudes, Book II; Kopprasch, 60 Etudes; Blazhevich, 70 Etudes for BB flat Tuba; Cimera, 73 Advanced Studies. Continued study will be made of the solo literature with emphasis on the Vivaldi-Ostrander Sonatas, the Holmes Lento, the Hartley Sonatina, and orchestral excerpts.

Mus 400-450 Section 19
Senior—Grades VI to VII

All scales are required with a continuation of technical development. The following Etudes will be used: Rochut Melodious Etudes, Book II; Blazhevich, 70 Etudes for BB flat Tuba; Kopprasch, 60 Etudes. Further study will be made of the solo repertoire with emphasis on the Hindemith Sonata, the Hartley Sonata, transcriptions of Mozart Horn Concertos, and orchestral excerpts.

APPLIED MUSIC LEVELS FOR PERCUSSION (Section 20)

Mus 100-150 Section 20
Freshman—Grades III to IV

The study of all snare drum rudiments and selected rudimental solos will take place. Selected studies from Sternburg, Podemski, and Goldenberg will be used to supplement the snare drum program. Emphasis will be made on two and three drum timpani technique. Selected studies from Goodman and Friese-Lepak will be used for the timpani program. A study of keyboard percussion instruments will be made. The keyboard program will consist of selected studies from Goldenberg and Bailey, and solos to be selected from the flute and violin literature of Bach, Handel, Corelli, and Vivaldi. Special study will be made of percussion accessories such as cymbals, triangle, tambourine, etc.

Mus 200-250 Section 20
Sophomore—Grades IV to V

Advanced studies from Pace, Albright, Cirone, Colgrass, and Benson will be used for the snare drum program. Timpani solos for three and four drums by composers such as Goodman, Bergamo, Ramey, Graeffe, Britton, Wuebold, and Jones will be

studied. A continuation of the Freshman keyboard studies will be made. The Goldenberg Etudes, selected studies and solos for three and four mallets, and selected studies for xylophone and vibraphone will be used to supplement the Sophomore keyboard program.

Mus 300-350 Section 20
Junior—Grades V to VI

There will be a continuation of the Sophomore snare drum program with additional study of Colgrass duets and Leavitt Studies. A continuation of the Sophomore timpani program will take place with additional selected excerpts from the band and orchestral repertoire. The continued keyboard program will consist of solos to be selected from contemporary original literature for keyboards by composers such as Creston, Frazeur, Diemer, and Ulrich.

Mus 400-450 Section 20
Senior—Grades VI to VII

Further technical development will take place on all percussion instruments as required by the instructor. Study will be made of works for multiple percussion ensembles by composers such as Milhaud, Stern, Russell, Ple Petit, and Bozza.

ENSEMBLES

If one of the music ensembles is in need of a particular player because of the uniqueness of the instrument or voice, the student may be asked to participate in more than one ensemble.

Mus 120 Brass Ensemble
Mus 121 Chamber Ensembles, Vocal or String
Mus 122 University Chorale
Mus 123 Concert Band
Mus 124 Indiana Glee Club
Mus 125 Indiana Marching Band
Mus 126 Opera Theater
Mus 127 Percussion Ensemble
Mus 128 University Theater Orchestra
Mus 129 Indiana Symphony Orchestra
Mus 130 Trombone Ensemble
Mus 131 Indiana Wind Ensemble
Mus 132 Women's Chorus
Mus 133 Woodwind Ensembles

Ensembles carry no credit. The student will receive a mark of S or U. An unsatisfactory grade will be reflected in a lower grade in Private Instruction.

PHILOSOPHY DEPARTMENT

ROBERT M. HERMANN, Chairman

BENJAMIN C. CHAN
RICHARD S. DAVIS
VINCENT J. FERRARA
ARTHUR KANNWISHER
JOHN L. KIPP

The Philosophy Department offers, in addition to the introductory course, a variety of electives designed to serve the needs of two kinds of students. Those whose primary interests are in other disciplines will find one or more philosophy courses which relate directly to their fields. Most of these carry no prerequisite.

Students wishing to major in philosophy must take a total of 33 semester hours in the field, including Phil. 221, 222, 324, 325, 328, and 430. Minors are required to take a total of 21 semester hours, including Phil. 221, 222, 324, 325, and 328. While course numbers indicate the years in which courses are expected to be scheduled, some flexibility is permitted. It should be noted, however, that Phil. 120 is prerequisite to several later courses. Exceptions to this requirement may be made only with departmental permission.

Phil 120 Introduction to Philosophy **3 cr.**
A survey of basic issues and fundamental concepts. Designed for the beginning student, this course attempts a critical appraisal of the major "isms" of philosophy. Emphasis is placed upon an understanding of problems in the field, rather than upon individual thinkers.

Phil 110 World Religions **3 cr.**
A non-sectarian and introductory course in which material from several academic disciplines is brought to focus on religion as an objective problem. Defining "religion"—forms of worship in prehistoric cultures—regional and national religions of the past—history and comparative theology of major contemporary faiths—religious behavior viewed psychologically and sociologically—some philosophical perspectives.

Philosophy Electives

Phil 221 Logic I—General Logic **3 cr.**
The Art of Reasoning—The Science of Critical Thinking. Designed for the general student, this course aims at a basic familiarity with the broad range of problems currently of interest to logicians, together with the acquisition of at least minimal skill in the evaluation of inferential claims.

Phil 222 Ethics **3 cr.**
An introduction to significant ethical theory. Selected writings both ancient and modern are examined and discussed

critically. The student is encouraged not only to develop a consistent ethical formulation of his own, but to make application of each view studied to current moral problems.

Phil 321 Logic II—Deductive Systems **3 cr.**

More technical in content than Logic I, Logic II is concerned primarily with deduction. Students are given a substantial grasp of modern symbolic axiom systems. Concrete applications of symbolic logic will be examined, as well as some of the more sophisticated problems and paradoxes which currently vex logicians. (Prerequisite: Phil 221).

Phil 323 Political Philosophy **3 cr.**

An examination of major theories of political organization. Such substantial works as Plato's **Republic,** Aristotle's **Politics,** Hobbes' **Leviathan,** Rousseau's **Social Contract,** and Locke's **Second Treatise of Civil Government** are studied in depth. (See also in Pol. Sci. electives).

Phil 324 History of Philosophy I **3 cr.**

A survey of the major thinkers of the ancient and medieval worlds with emphasis on the essential thought of selected philosophers. Special attention will be given to the pre-Socratics, Plato, Aristotle, Augustine and Aquinas. (Prerequisite: Phil 120).

Phil 325 History of Philosophy II **3 cr.**

A continuation of Phil 324 beginning with 17th century rationalism and ending with the 19th century precursors of contemporary philosophies. (Prerequisite: Phil 120. It is not required but strongly recommended that Phil 324 and 325 be taken in sequence.)

Phil 327 American Philosophic Thought **3 cr.**

A study of the more original and influential philosophic postures developed in America from the colonial period to the present, and of the men who gave them their most complete expressions. (Prerequisite: Phil 120).

Phil 328 Aesthetics **3 cr.**

Studies in the meaning and value of man's aesthetic experience. The nature and significance of art—its role in human experience—bases of aesthetic judgments. Theories of art from Plato to Dewey are examined and discussed critically.

Phil 329 Philosophy of Religion **3 cr.**

An examination of the major theories and problems of philosophy in relation to religion. Such topics and the existence of God, evil, religious language, existentialism, and mysticism will be explored. The works of thinkers such as Hume, Kant, Aquinas, Tillich, Buber, Royce, Stace, Kierkegaard, J. Huxley, and Augustine will be studied.

Phil 330 Philosophy of Science **3 cr.**

The basic nature and structure of scientific thought. Problems of physical and social science will be examined in relation to philosophy. The nature of scientific laws, induction, causation, the logic of explanation, probability, the role of mathematics in science, and the place of value in science will be explored. No special or technical background required.

Phil 410 Contemporary Philosophy **3 cr.**

A survey in depth of the contemporary philosophic scene —pragmatism, positivism, logical and linguistic analysis, existentialism, phenomenology, current realism and idealism. (Prerequisite: Phil 120 or departmental permission.)

Phil 430 Readings Colloquium **3 cr.**

Designed for the student making a primary concentration in philosophy, this course centers around discussion of an intensive reading program, and includes a research project of thesis quality. (Admission by special permission only.)

PHYSICS DEPARTMENT

RICHARD E. BERRY, Chairman

GARY L. BUCKWALTER
JERRY K. EDDY
MING T. LU
JOHN K. MATOLYAK
PATRICK J. McNAMARA
MARILYN E. NOZ
DAVID L. RAMSEY
DANIEL G. REIBER
RICHARD D. ROBERTS
PAUL M. WADDELL
DENNIS W. WHITSON
JAMES G. WRAY, JR.
PATSY A. ZITELLI

PHYSICS COURSES

Phys 111-112 Physics I and II **3 cr. each**

This is a two-semester non-calculus course in general college physics. The primary purpose of the course is to provide a General Physics course for students in Biology, Chemistry, Mathematics and Physics. The first semester is concerned primarily with classical physics, which includes the topics: Mechanics, Heat, and Electricity. The second semester of the course is concerned primarily with modern physics, which includes: Physical Optics, Quantum Mechanics, and Nuclear Physics. Students taking this course will generally take the Physics Laboratory I and II course, Phys 121-122 concurrently. Three hours lecture per week.

Phys 121-122 Physics Laboratory I and II **1 cr. each**

This laboratory course is normally taken concurrently with, or after successfully completing, Physics 111-112. It may be taken separately by any students who wish an introduction to physical laboratory techniques. The types of instruments used in the Laboratory course include: oscilloscopes, power supplies, signal generators, desk calculators, computers, chart recorders, vacuum tube voltmeters, potentiometers, thermocouples as well as the usual measuring instruments for length, mass, and time. Three hour laboratory period per week.

Phys 222 Mechanics I **3 cr.**

Prerequisites: Phys 331, Math 257.

The mechanics included in Physics 111 is recast in the language of calculus and extended to the following topics: Dynamics of a particle under different force laws, central force including planetary and satellite motion, energy in particle dynamics, statics including virtual work, systems of particles and an introduction to kinetic theory and statistical mechanics. Three hours lecture per week.

Phys 223 Mechanics II **3 cr.**

Prerequisites: Phys 222, Math 357.

This course, the sequel to Physics 222, includes: mechanics of a rigid body, constraints, oscillations, wave motion, mechan-

ics of fluid and introduction to advanced mechanics, relativistic mechanics, and wave mechanics. Three hours lecture per week.

Phys 231 Electronics **4 cr.**

Prerequisites: Physics 111 and 112, Math 157.

This course introduces electronic circuitry and instrumentation. A brief introduction to circuit theory includes direct current transients, alternating currents, and response of simple networks to pulses and square waves. This theory is then applied equally to vacuum-tube circuits and transistor circuits. The laboratory provides opportunity for each student to use dual-trace oscilloscopes, signal generators, and power supplies. The following concepts are emphasized in the course: frequency response, input and output impedance, feedback, and electronic noise. Three hours lecture and three hours laboratory per week.

Phys 242 Optics **4 cr.**

Prerequisites: Phys 111, 112, Math 257.

This course deals with such topics as reflection and refraction at surfaces, optical instruments, polarization, interference and diffraction of light. Three hours lecture and three hours laboratory per week.

Phys 322 Electricity and Magnetism I **3 cr.**

Prerequisites: Phys 111, 112, Math 357.

The first part of the course is devoted to a review of vector calculus including gradient divergence and curl. The topics covered include electrostatic potential theory, dielectrics, dipole theory and magnetostatics. Maxwell's equation for static fields are employed in solving problems. Legendre's polynomials and other approximation methods are used to solve Laplace's equation. Three hours lecture per week.

Phys 323 Electricity and Magnetism II **3 cr.**

Prerequisite: Phys 322.

This course, a sequel to Phys 322, develops the time dependent form of Maxwell's equations. The principal topics included are electromagnetic induction, vector potential, magnetism, radiation fields, and poynting vector. Three hours lecture per week.

Phys 331 Atomic and Nuclear Physics **4 cr.**

Prerequisites: Phys 111, 112, Math 357.

This course is an introduction to the particle and wave properties of matter, atomic structure, and radioactivity. The laboratory experiments will include many of the basic experiments in atomic and nuclear physics. Three hours lecture and three hours laboratory per week.

Phys 342 Heat and Thermodynamics **4 cr.**

Prerequisites: Phys 111, 112, Math 357.

Thermometry, the laws of thermodynamics, low temperature physics, Carnot cycle, entropy, the properties of ideal gas, and heat transfer are studied. In the laboratory the fundamental laws are tested and an introduction is given to high vacuum techniques and cryogenics. Three hours lecture and three hours laboratory per week.

Phys 421-422 Selected Experiments I and II **3 cr. each**

Prerequisites: Phys 231, 331.

These two courses offer training in lab skills and modern instrumentation involved in individual research. The skills taught are those needed for independent research in industry and in thesis research projects in universities; as such, it is also useful to educators, who need to know the methods of the research scientist, and need the skills in using modern equipment in teaching. The two courses are independent of each other.

Selected Experiments I includes experiments selected from the following topics: advanced optics, microwaves, radio and optical astronomy, semi-conductor properties, cryogenics, and classic experiments in atomic physics.

Selected Experiments II includes experiments selected from the following topics: Mössbauer effect, laser modulation, magnetic resonance, cosmic rays, and classic experiments in nuclear physics. Six hours laboratory per week.

Phys 472 Modern Physics **3 cr.**

Prerequisites: Phys 331, Math 257.

This course serves as a survey of nuclear physics. Nuclear size, nuclear mass, reaction theory, types of radioactive decay, nuclear models, nuclear forces and elementary particles are some of the topics covered. Three hours lecture per week.

Phys 483-484 Quantum Mechanics I and II **3 cr. each**

Prerequisites: Phys 222, 331, Math 361.

These courses develop quantum mechanics following the method of Schrodinger. The theory is applied to the properties of the harmonic oscillator, the hydrogen atom, the electron in a magnetic field and the radioactive decay of alpha particles. The general principles of quantum mechanics are related to atomic structure and the periodic table. Three hours lecture per week.

Phys 498 Problems in Physics **1-4 cr.**

Prerequisites: Phys 111, 112, Math 157.

This course provides an opportunity to study special topics in physics such as Fourier Series, Vibrating String Theory, Vector Analysis, or to carry on experimental projects such as

constructing lasers, and analyzing the corona of the sun. In general, the student deals in a more sophisticated manner with topics which receive elementary treatment in the regular courses.

GENERAL EDUCATION COURSES

Sci 105 Physical Science I **4 cr.**

A study of the physical world, focusing on the fundamental concepts of matter and energy. Emphasis is placed on what science is, how scientific knowledge is acquired, and the emergence of the more fundamental chemistry, geology, and physics. Three hours lecture and two hours laboratory.

Sci 106 Physical Science II **4 cr.**

See course descriptions in Chemistry Department.

Sci 401 The Growth of Science and Its Concepts I **3 cr.**

Traces the development of science concepts like time, matter and motion in Astronomy, Biology, Chemistry, Geology and Physics and their interaction with the growing society of Western Civilization from the earliest beginnings to the time of Newton. The treatment of these concepts will be essentially non-mathematical. Three hours per week.

Sci 402 The Growth of Science and Its Concepts II **3 cr.**

The influence and development of the concepts like time, matter and motion on Science and Western Civilization are studied from Newton to the present time with its emphasis on the ideas of Relativity and Quantum Theory. Stress will be placed on the non-mathematical understanding of the basic ideas. Science 402 may be taken without having Science 401 with the permission of the instructor. Three hours per week.

POLITICAL SCIENCE DEPARTMENT

RICHARD F. HEIGES, Chairman

PATRICK A. CARONE
EDWARD CHASZAR
RONALD C. GREEN
JAMES R. HORNER
DAVID S. KEENE
RAYMOND L. LEE
ROBERT L. MORRIS
DOROTHY A. PALMER
EDWARD E. PLATT
JAMES L. REILEY
BERT A. SMITH
JOHN W. SMITH

Basic Courses

PolS 111 American Citizenship **3 cr.**

This course is largely concerned with our Federal and State governments. Emphasis is placed upon the constitutional basis of government, organization and structure of government, division of governmental powers, Federal and State relations, public finance, organization and role of political parties, and the place of the citizen in government. In a study of the functions and services of government, attention is given such problems as foreign policy and world relations, economic and social security, and the promotion of the general welfare.

PolS 120 Introduction to Political Science **3 cr.**

An introduction examination of the methodology and subject matter of political science. (Restricted to majors and minors.)

PolS 250 Contemporary Political Problems **3 cr.**

This course emphasizes the dynamics of government as they are evidenced in public opinion, pressure groups, political parties and our governmental institutions. Attention is also directed toward the political-economic nexus within American society.

PolS 251 State and Local Government **3 cr.**

Institutions and processes of state and local governments, with special attention to Pennsylvania. Emphasis is placed on the nature of federalism, state constitutions, parties and interest groups, the legislature, office of governor, the judiciary, and role of state and local government in an urban society.

PolS 280 Comparative Government **3 cr.**

Analyzes the major foreign political systems, with emphasis upon contemporary Europe including the Soviet Union. Authoritarian and democratic systems are compared, with the emphasis upon institutions and processes.

PolS 281 International Relations **3 cr.**

Consideration is given to the fundamentals of the state system, sovereignty and nationalism; the elements of national power; the diplomatic, legal, economic, organizational and mil-

itary relations of states; procedures for the settlement of disputes; power-security problems and patterns of power to cope with the problems. The course attempts to provide a conceptual framework on the basis of which international events can be sorted out and made meaningful.

PolS 283 American Foreign Policy **3 cr.**

An analysis of the formulation and execution of American foreign policy. An examination of the roles of the formal governmental institutions, mass media, interest groups, and public opinion in the policy-making process. Special emphasis to be given to contemporary foreign policy problems.

PolS 298-299 News Interpretation **1 cr.**

The course is designed to provide students with techniques for intelligent reading of the daily newspaper and weekly news magazines and to give some understanding of current affairs at the state, national and international level.

American Studies

PolS 350 The Presidency **3 cr.**

An examination of the Office of President with attention to constitutional foundations, evolution, structure, powers, and functions. Evaluation of the changing nature of the office within the American political system. Some comparisons are made between presidential and parliamentary systems and between the offices of President and Governor.

PolS 351 Legislative Process **3 cr.**

Organization and procedure of the United States Congress with special reference to the theory and practice of representative government, lobbying, and bicameralism.

PolS 352 Public Opinion **3 cr.**

A study of the nature of public opinion within the political system. Attention is given to the formation of public opinion and its expression, propaganda, and mass media, and interest groups.

PolS 353 American Political Parties **3 cr.**

The role of people, parties and pressure groups in the politics of American democracy. Attention will be devoted to: campaign activities of candidates; party support for the candidates; voting behavior; sectional and historic roots of national politics; the institutional politics of Congress and the Presidency; the competition for power among business, labor, agriculture, and the other major organized interests.

PolS 354 Metropolitan Problems **3 cr.**

Analyzes the multiplicity of problems facing our metropolitan areas. Contemporary developments such as urban re-

newal, the shrinking tax base, federal aid to cities, subsidized mass transit, municipal authorities, and political consolidation are examined. Pennsylvania municipalities are contrasted with those of other states.

PolS 358 Judicial Process **3 cr.**

Explores the nature and limits of judicial power, the courts as policy-making bodies, the selection of judges, the decision process, the external forces impinging on the courts, and the role of the Supreme Court in its relationship with Congress, the Presidency, and federalism. Judicial biographies and case studies are included.

PolS 359 Constitutional Law and Civil Liberties **3 cr.**

A study of the development of constitutional law through leading Supreme Court decisions. Topics treated include the scope of federal powers, civil liberties and civil rights, the nature of judicial review, federal-state relations. Attention is given to the continuing controversy over the role of the Supreme Court in American society.

Political Theory

PolS 360 Political Philosophy **3 cr.**

The evolution of the Western political tradition of Constitutionalism from Plato and Aristotle to Locke and Montesquieu. The religious (Judeo-Christian) and rational (Graeco-Roman) foundations. Medieval theories of authority and representation in church and state. Early modern theories of the state and sovereignty (Bodin and Hobbes). Emphasis on analysis of writings of leading theorists. Concepts of law, natural rights, liberty and equality, and justice are treated in detail.

PolS 361 Modern Political Thought **3 cr.**

The development of political thought since the mid-16th century (Rousseau). Classic Liberalism of the Philosophic Radicals. Conservative thought since Burke. The nature and origin of modern irrational ideologies such as fascism and national socialism. Socialist thought (Marxist and non-Marxist). Contemporary collectivist liberalism.

Public Administration

PolS 370 Public Administration **3 cr.**

A survey of the major areas of public administration, with emphasis on theories of organization and structural organization and dysfunctions of the bureaucratic system, personnel processes, executive functions, financial administration, the politics of administration, public relations, and problems of democratic control of bureaucracy.

PolS 371 Federal Administrative Policy **3 cr.**
An intensive study of the role of federal agencies and their administrators in determining and developing public policy. Public administration in practice is emphasized by utilizing case studies.

International Studies

I. E. 101 World Politics **3 cr.**
An analysis of the contemporary (Post 1945) state system and the forces shaping the world in which the student lives. Subtopics include the revolution in military technology, the nationalist and social revolutions in developing nations and the confrontation of Communism with the Western democracies. The student is given a framework within which he can analyze contemporary international politics.

PolS 282 International Organizations **3 cr.**
An analysis of the purposes, functions, structure, and history of international political organizations in the twentieth century such as the United Nations, its predecessor, the League of Nations, the Organization of American States, and other regional institutions.

PolS 380 Soviet Politics **3 cr.**
Essential features of the Communist party and government of the U.S.S.R., including geographical and historical background and ideological and theoretical foundations.

PolS 381-386 Political Systems **3 cr.**
An intensive, comparative study of the government and politics of a selected region.

PolS 381 Latin America
PolS 382 Africa
PolS 383 Asia
PolS 384 Middle East
PolS 385 Central and Eastern Europe
PolS 386 Atlantic Community

PolS 389 Developing Nations **3 cr.**
An examination of the major political problems encountered by the developing nations. Topics for study and discussion include: Political characteristics of the emerging nations; the impact of economics and social change upon political structure; evolving patterns of political development; and techniques of nation-building.

Research, Study, and Methodology

PolS 401-402 Readings in Political Science **3 cr.**
Readings and brief written assignments on a specific topic determined by the instructor in charge.

PolS 410 Honors in Political Science **3 cr.**

Directed readings and one or more papers; topic to be selected by instructor and student. Prerequisite: 15 s.h. in Social Sciences, including 9 s.h. in Political Science, 'B' average in Social Sciences, and permission of department chairman and instructor.

PolS 499 Scope and Methods of Political Science **3 cr.**

Explores the nature of the debate in the discipline over the proper parameter and goals of Political Science. Emphasizes the means available to the discipline in its effort to obtain political knowledge and to explain political phenomena. General familiarity with such methodologies as roll-call and popular voting analysis, role analysis, content analysis, game theory, computer simulation, legislative history, survey research, philosophical discourse, decision-making, power structure analysis and various forms of model-building will be provided; and in-depth experience with one or more of these tools of research will be required. (Open only to Seniors, Political Science majors and minors; prerequisites: PolS 111 and 120.)

PSYCHOLOGY DEPARTMENT

ROBERT D. MAGEE, Chairman of Department

BRUCE D. CARTWRIGHT
KENNETH F. EDGAR
TERENCE A. GERACE
D. ROBERT JACOBS
JAMES KLINEDINST
STANLEY W. LORE
BLANCHE W. McCLUER
GARY PATTON
JOHN W. REID

Affiliate Members:
HERBERT I. LEVIT
NOEL A. PLUMMER

Psychology Courses

Psy 201 General Psychology (General Education Course for all Education students and Psychology Majors) 3 cr.

This is an introduction to the scientific study of the behavior of living organisms. The student will acquire a psychological vocabulary, know the major psychological concepts and principles will understand the application of the scientific method to psychology, be able to distinguish between empirical psychological facts and theories, develop a critical attitude toward popular generalizations and misconceptions, and, to a degree, understand others and himself better.

Psy 202 Advanced General Psychology 3 cr.

Prerequisite: Psy 201.

A course designed to extend one's knowledge of general psychology as a science. An extension of general psychology for science and liberal arts students who desire acquaintance with topics in perception, the senses, and human learning. Weekly demonstrations and laboratory exercises. Laboratory periods by arrangements.

Psy 221 Historical Trends in Psychology 3 cr.

Prerequisite: Psy 201.

A comprehensive overview of the historical antecedents of contemporary systems of psychology. Philosophical and scientific thought will be considered as it is related to the establishment and continuing development of psychology.

Psy 310 Behavioral Statistics 3 cr.

An introduction to both Descriptive and Interpretative Statistics as applied to behavioral science data. A non-mathematical course, with emphasis on the appropriate application of statistical tools.

Psy 311 Experimental Psychology 3 cr.

Prerequisites: Psy 201, Math 362 (or Psy 310).

A laboratory course on designing, conducting and evaluating experiments. Students carry out both original and classical experiments in the major areas of psychology. Outstanding studies in each area are surveyed. Two lecture periods plus one double-period laboratory session.

Psy 352 Mental Hygiene **3 cr.**

Prerequisite: Psy 201.

A course designed for aiding the development of strong, hygienic personalities; mental hygiene as related to the child, adolescent, and teacher in the home, classroom, and social situation; maladjustments and mental diseases with emphasis on prevention.

Psy 353 Child Psychology **3 cr.**

Prerequisite: Psy 201.

This course aims to study the developmental changes in intellectual, emotional, motor, and social behavior from early infancy to adolescence. Outstanding experimental, clinical and theoretical contributions that show the important practical relationships between self-understanding, understanding of others, and the process of helping children to discover themselves will be given special attention.

Psy 354 Developmental Psychology **3 cr.**

Prerequisite: Psy 201.

A comprehensive study of the principles of psychological development in the individual from conception to old age. Emphasis is on research methodology and experimental evidence pertaining to developmental principles.

Psy 355 Adolescent Psychology **3 cr.**

Prerequisite: Psy 201.

This course is a study of the adolescent, his growth and development, behavior, personality, and problems. All areas in his experience will be considered, the physical, mental, emotional, social.

Psy 362 Physiological Psychology **3 cr.**

Prerequisite: Psy 201.

This course will be an intensive study of the physiological bases of behavior, with respect to the receptor, adjustive and effector systems. Selected principles of psychophysics and neuroanatomy are emphasized. (Departmental consent required)

Psy 363 Perception **3 cr.**

Prerequisite: Psy 201.

A study of perceptive processes, their acquisition, and their effects upon the individual. Sensory mechanisms and their thresholds as well as responses to complex stimuli are also included.

Psy 371 Personality **3 cr.**

Prerequisite: Psy 201.

The leading experimental and clinical findings on personality and motivation and the major theories of personality, including Freudian theories. (Departmental consent required)

Psy 372 Introduction to Psychological Measurement **3 cr.**
Prerequisite: Psy 201.
A survey of psychological measurement techniques, with emphasis on the theoretical assumptions underlying these techniques and discussion of the interpretation and limitations of the measuring instruments. The course includes a consideration of individual and group tests, objective and projective techniques, and self-rating scales.

Psy 391 Psychology of Learning **3 cr.**
Prerequisite: Psy 201.
The description and analysis of theories of the learning processes. Discussion of experimental findings relating to the acquisition, maintenance, and control of behavioral changes in terms of these theories.

Psy 451 Psychological Practicum **3-9 cr.**
Under the supervision of the Psychology Department selected students receive experience in the application of psychological technique. (Departmental consent required)

Psy 452 Social Psychology **3 cr.**
Prerequisite: Psy 201.
A study of the interaction of people, either in pairs or in groups. Examination of the effects of their respective personalities, motives, attitudes and cultural backgrounds upon each other. Also a study of leadership, role playing, group conformity and group effectiveness.

Psy 461 Abnormal Psychology **3 cr.**
Prerequisite: Psy 201.
The systematic study of the full range of psychological functioning from the basic and accepted normal to the most extreme aberrations. Etiology, dynamics, symptomatology, treatment, and prognosis of the psychoneuroses, psychoses, psychomatic disorders, character disorders, and disorders of intelligence constitute the major emphases of the course.

Psy 481 Industrial Psychology **3 cr.**
Prerequisite: Psy 201.
A systematic consideration of the practical applications of psychology to business and industry. Attention is given to the effects of industrial organization upon individual motivation. Problems of communications, personnel, and the development of social relationships within the industrial setting are studied.

Psy 491 Senior Seminar in Psychology **3 cr.**
Open only to students with a specialization in psychology and senior standing. Discussion of the basic concepts in psychology, their evolution, and their current status. Exploration of current research and trends in the various areas of psychology. (Departmental consent required)

SCIENCE DIVISION

DWIGHT E. SOLLBERGER, Science Coordinator

GENERAL EDUCATION COURSES

Biol 103 General Biology I **4 cr.**

This course deals with the principles of biology. Topics include cellular structure and physiology, growth and repair, reproduction and development, control sources of food energy, inheritance, and man's interrelationship with his biological environment. The classification of plants and animals is reviewed briefly. Three hours lecture and two hours laboratory.

Biol 104 General Biology II **4 cr.**

A continuation of General Biology I. Three hours lecture and two hours laboratory.

Sci 105 Physical Science I **4 cr.**

A study of the physical world, focusing on the fundamental concepts of matter and energy. Emphasis is placed on what science is, how scientific knowledge is acquired, and the emergence of the more fundamental physical laws. Topics include those often associated with astronomy, chemistry, geology and physics. Three hours lecture and two hours laboratory.

Sci 106 Physical Science II **4 cr.**

A continuation of Physical Science I. Three hours lecture and two hours laboratory.

PROFESSIONAL EDUCATION REQUIREMENT

Ed 451 Teaching Science in the Secondary School **3 cr.**

Prerequisites: 12 hours of work in major field. Two hours lecture and three hours laboratory work per week.

This course is designed to make the prospective science teacher aware of some of the important problems in science education. Emphasis is laid on lesson planning, construction of unit outlines, demonstrations, and open-ended laboratory experiences. Each student is required to investigate the latest curricular emphasis in his field.

SPECIAL SCIENCE COURSES

Sci 311 Elements of Earth Science **3 cr.**

This course is designed to make elementary teachers more aware of the science in their environment. While the biological environment is briefly reviewed, greater stress is placed upon the areas of geology, astronomy and meteorology. Field study and lectures strive to include both scientific principles and practical classroom activities that the teacher may use in the elementary classroom.

El 312 Teaching of Elementary Science 3 cr.

The fundamental areas of physics and chemistry are covered in this course. Student participation is fundamental to their understanding of the basic principles that can be transferred to the elementary classroom, and to their familiarization with scientific equipment. The latter part of the course is devoted to a survey of the biological environment and continues the work begun in Elementary Science.

SOCIAL SCIENCE DIVISION

RAYMOND L. LEE, Social Science Coordinator

GENERAL EDUCATION COURSES

(Required of all students)

Hist 102 History of Civilization II 3 cr.

This course deals with man's development from 1600 to the present. Among the topics discussed are: The Commercial Revolution; the Age of Reason; the Age of Revolution—political, economic, and social the rise of constitutional governments; nationalism and the clash of cultures incident to the growth of empire. Considerable attention is given to democracy, capitalism, communism, fascism, and socialism as the major ideologies of the nineteenth and twentieth centuries. The course concludes with an examination of the various formulas for world order proposed or attempted since 1900.

Hist 104 History of the United States and Pennsylvania II 3 cr.

A course in the history of the United States and Pennsylvania from 1865 to the present in which the industrialization of America, urbanization, the rise of organized labor, and the development of a distinctly American culture are stressed. Attention is also given to the political, economic, and social reform movements of this period in our history as well as to the increasing role of the United States in world affairs.

PolS 111 American Citizenship 3 cr.

This course is largely concerned with our Federal and State governments. Emphasis is placed upon the constitutional basis of government, organization and structure of government, division of governmental powers, Federal and State relations, public finance, organization and role of political parties, and the place of the citizen in government. In a study of the functions and services of government, attention is given such problems as foreign policy and world relations, economic and social security, and the promotion of the general welfare.

Anth 110 Introduction to Anthropology 3 cr.

Following a brief survey of man's place in nature, the

course focuses on the concept of culture and on the divergent answers that cultures give to the basic questions of man's existence.

SOCIAL SCIENCE HONORS PROGRAM

SS 491 Social Science Honors **3 cr.**

Prerequisites include a B average in Social Science courses, an average which must be maintained during the honors program.

Admission to the Social Science Honors course is by invitation only. Students will do independent research over two semesters under the direction of a department member.

SS 492 Social Science High Honors **3 cr.**

This course is an extension of SS 491. Admission by invitation.

PROFESSIONAL EDUCATION REQUIREMENT

Ed 451 Teaching Social Studies in the Secondary Schools **3 cr.**

This course provides an opportunity for the prospective teacher to develop understandings and competencies for teaching social studies. Emphases in the course include: values and goals in social studies, the teaching process, materials and learning activities, evaluation of learning, and planning for classroom teaching. This course is a prerequisite to student teaching in the social studies.

SOCIOLOGY-ANTHROPOLOGY DEPARTMENT

RALPH R. IRELAND, Chairman

HERBERT L. BENTON
VIRGINIA G. GERALD
BROOKE V. GRANT
RUDOLF R. KRAUS
MYRON H. LEVENSON
ESKO E. NEWHILL
ANJA H. OLIN-HALE
DOWNEY D. RAIBOURN
WALTER T. SHEA

Soc 151 Principles of Sociology **3 cr.**

Sociology is the science of the structure and functioning of human groups. Taking culture concepts and social institutions as its basic materials, it explores the content, methodology, and interrelationships of those studies seeking to record and explain man's social behavior in the modern world. Problems of social change, and the attendant efforts to direct and control such change, are integral parts of the course.

Soc 331 Contemporary Social Problems **3 cr.**

Prerequisite: Principles of Sociology.

A course which explores pressing social issues and the solutions offered for their alleviation. Within its scope fall race and minority discrimination, juvenile delinquency, crime, family disintegration, personal maladjustment, population shifts, the role of culture, the nature of social change, and the possibility of social planning. Problems are defined and solutions are explored in the light of historical, political, economic, social, and anthropological data.

Soc 332 Racial and Cultural Minorities **3 cr.**

Prerequisite: Principles of Sociology.

A study of national, racial and religious minorities and divergent heritages in our national life.

Soc 333 Juvenile Delinquency **3 cr.**

Prerequisite: Principles of Sociology.

Principal topics are the cause of delinquency, its forms, consequences, and the methods that may best be used in its prevention.

Soc 334 Population Problems **3 cr.**

Prerequisite: Principles of Sociology.

The focus is upon population growth and distribution. The present "population explosion" will be a topic of central interest.

Soc 335 Social Stratification **3 cr.**

Prerequisite: Principles of Sociology.

A study of social status patterns and social mobility. Determinants of social class divisions and the consequences of class distinction for individuals and society will be discussed.

Soc 336 Sociology of the Family **3 cr.**
Prerequisite: Principles of Sociology.
The relationships between types of family interaction and extrafamilial problems are emphasized, as well as the impact of social change on the structure and functions of the family.

Soc 337 World Cultures **3 cr.**
Students are provided with a minimal orientation to the study of the cultural diversity of human societies. There will be an emphasis on the determinants of cultural variability and the problem of ethnocentrism resulting from this diversity.

Soc 338 Introduction to Social Work **3 cr.**
Prerequisite: Principles of Sociology.
The principles of social work; their application to problems of family and child welfare; casework and group techniques.

Soc 339 American Communities **3 cr.**
Prerequisite: Principles of Sociology.
An analysis of the social structure of communities at the local level in relation to the national community structure. Examination of current problems and future trends.

Soc 340 Industrial Sociology **3 cr.**
Prerequisite: Principles of Sociology.
Work and the milieu of the worker; social organizations in industry; problems of the worker; industrial morale and teamwork; social adjustment of the worker; and the relation of industry to the community and society.

Soc 341 Sociology of Education **3 cr.**
Prerequisite: Principles of Sociology.
A sociological approach to the understanding of the role of educational institutions in American society will be presented with special emphasis on the status and role of the public school teacher.

Anth 110 Introduction to Anthropology **3 cr.**
Following a brief survey of man's place in nature, the course focuses on the concept of culture and on the divergent answers that cultures give to the basic questions of man's existence.

Anth 211 Cultural Anthropology **3 cr.**
Prerequisite: Introduction to Anthropology.
A survey of problems and theories in the science of culture. Each student makes a study of a particular major anthropologist or theoretical approach.

Anth 312 World Ethnography **3 cr.**
Prerequisite: Introduction to Anthropology.
Study in depth of specific non-literature cultures to explore questions of cultural integration.

Anth 313 Old World Archaeology **3 cr.**

Prerequisites: Anth 110 Intro to Anthropology, Anth 317 Archaeological Techniques.

Prehistory of Europe and Asia from Paleolithic through Neolithic developments. Emphasis on technology, chronology, ecology, and culture processes.

Anth 314 Ethnology of North American Indians **3 cr.**

Prerequisite: Introduction to Anthropology.

A survey of the culture history and culture area characteristics of the Indians of North America. Detailed study of representative groups will be related to historical, functional, and ecological concepts.

Anth 315 North American Archaeology **3 cr.**

Prerequisites: Anth 110 Introduction to Anthropology, Anth 317 Archaeological Techniques.

Prehistory of North American Indians, emphasizing technology and stylistics, history and cultural ecology.

Anth 316 The Anthropology of Religion **3 cr.**

Prerequisites: Anth 110 Introduction to Anthropology.

The nature, function and universal characteristics of religion in human society will be dealt with by utilizing the cross-cultural approach. Theories concerning religious phenomena will serve as topics for discussion.

Anth 317 Archaeological Techniques **3 cr.**

Prerequisites: Anth 110 Introduction to Anthropology.

History of Archaeology, methods, theories and techniques for chronological and cultural analysis of non-literate and literate cultures.

Anth 318 Museum Methods **3 cr.**

Prerequisites: Anth 110 Introduction to Anthropology.

Lecture and laboratory course concentrating on the history of museums, natural science and anthropological museum methods and techniques, providing practical experience in exhibit preparation and installation.

Anth 319 Social Structure and Function **3 cr.**

Prerequisites: Anth 110 Introduction to Anthropology.

A survey concerning the mechanisms of integration in social organization and their role in the development of societies. The Family, Kinship and Ideological systems will be stressed.

Anth 320 Archaeological Field School **3 cr.**

Prerequisites: Anth 110 Introduction to Anthropology.

Field excavation of selected archaeological sites in Indiana and adjacent counties. Opportunity for varied experience in historic and prehistoric Indian sites, both open sites and rock shelters.

SPECIAL EDUCATION AND CLINICAL SERVICES

MORTON MORRIS, Chairman of Department

MARIE K. BAHN
NELSON H. BORMANN
MAUDE O. BRUNGARD
WILLIAM P. CHAPMAN
GENE A. FELIX
MARSHALL G. FLAMM
MARION M. GEISEL
RICHARD P. MEASE
ESTHER M. SHANE
ROMAYNE L. POUNDS
EUGENE F. SCANLON
DOROTHY M. SNYDER

This department offers three options for student majors. Each option follows a prescribed sequence of courses. Students may elect to major in any one of the following fields of exceptionality:

A. EDUCATION FOR THE MENTALLY RETARDED.

B. SPEECH PATHOLOGY AND AUDIOLOGY.

C. REHABILITATION EDUCATION.

Students in other departments not intending to major in any of the options who wish to improve their understanding of exceptionality, may, with permission of the instructor, elect certain courses.

Introductory Courses

(These courses are open to all students)

SpE 220 Introduction to Exceptional Children **3 cr.**
This introductory course gives students an opportunity to survey the characteristics, needs, problems, and behavior patterns of those children who deviate sufficiently from the "normal" to be considered exceptional. Consideration will be given to those who fall intellectually both above and below the average; to those who are handicapped visually, acoustically, orthopedically, medically, or in respect to speech patterns. Behavior disorders resulting from brain impairment will also be considered.

SpE 215 Child Development **3 cr.**
Childhood foundations of human growth and development are considered in this course. Research from various disciplines are studied in terms of understanding physical, mental, social and emotional factors and how these interrelate throughout childhood development. Implications of growth and development are considered in aspects of adjustment to home, school, and community life.

SpH 254 Speech Development and Improvement **3 cr.**
This course involves a study of those aspects of speech and hearing problems pertaining to the classroom situation. Types

of speech and hearing disorders, conducting speech improvement lessons, classroom aids for the speech and hearing defective child, and school and community resources for these children are emphasized. Open to both education and speech and hearing majors.

A. EDUCATION FOR THE MENTALLY RETARDED

Students may become certified as teachers of the mentally retarded by pursuing a coordinated sequence of prescribed courses and by fulfilling requirements for student teaching with the mentally retarded. The program also provides a foundation for pursuing additional work at the graduate level. Further specialized training in mental retardation offers opportunities for qualified persons in administration, supervision, vocational rehabilitation and related fields.

I. Basic Courses in Mental Retardation

SpE 320 Psychology of Mentally Retarded Children 3 cr.
Prerequisite: SpE 220 Introduction to Exceptional Children.

This course will point up the importance of viewing retarded children and youth as living, adjusting individuals who respond to many kinds of personal and social situations and who are capable of far more than usually imagined. The importance is stressed of the ways in which the retarded develop, learn, and adapt to various home, school, community, or sheltered settings.

Art 330 Arts and Crafts for the Mentally Retarded 3 cr.
The materials and processes of arts and crafts are studied for opportunities they offer in the training, therapy and education of students who are mentally retarded, crippled, or need special help for any reason. (Offered by Art Department).

SpE 301 Reading and Other Language Arts for the Mentally Retarded 3 cr.
Prerequisite: El 222 or Ed 362.

This course deals with the preparation and execution of teaching units in reading, vocabulary development, spelling, handwriting, and/or written communication. The emphasis will be on what retarded children can reasonably be expected to do at elementary and secondary levels. Consideration will be given to objectives, procedures and experiences designed to meet the unique needs of the mentally retarded.

SpE 411 Health and Physical Education for Exceptional Children 2 cr.
Prerequisite: SpE 220.

This course will provide an opportunity for the prospective teacher of the mentally retarded to gain a thorough understanding of a program of health, physical education and recre-

ation as it applies to individuals with mental and physical handicaps. Special attention will be given to the needs of children with physical handicaps or developmental problems which may accompany mental retardation.

SpE 431 Curriculum and Methods for the Mentally Retarded **3 cr.**

(Open only to qualified seniors).

This course will consider the basic content and method for teaching the mentally retarded. Emphasis will be placed upon organization of curriculum in the fundamentals and in social and pro-vocational skills for daily living. Resource materials used for instruction at elementary and secondary levels will be explored.

SpE 255 Development of Language in Children **3 cr.**

This course explores not only the levels and sequences of the child's linguistic acquisition at various ages but also his burgeoning sensitivity to extra-language information by which he must operate with others, and the complex processes instrumental in the formulation of his responses.

El 313 Teaching of Math in the Elementary School **3 cr.**

(See course description under ELEMENTARY EDUCATION DEPARTMENT).

Elem 222 Teaching of Reading **3 cr.**

(See course description under ELEMENTARY EDUCATION DEPARTMENT).

Electives and Courses for Teachers Completing Special Education Requirements:

Mus Ed 310 Music for the Mentally Retarded **2 cr.**

Prerequisite: El 211 Music for Elementary Grades.

The concept of the function of music in the light of the mentally retarded child will be developed from the standpoint of functional use rather than critical evaluation of skill development. Materials will be surveyed, evaluated, and selected for use as well as specific techniques of presentation.

SpE 420 Teaching Mentally Retarded Children **3 cr.**

Prerequisite: SpE 220 Introduction to Exceptional Children.

This course will consider the basic design, philosophy, and procedure developed for teaching mentally retarded children. Emphasis will be placed upon how to organize for teaching the mentally retarded child, how to guide the activities of the mentally retarded child, and how to teach the "fundamental processes" to the mentally retarded child.

SpE 421 Student Teaching of the Mentally Retarded **3 cr.**

Students will be required both to observe and to participate in the teaching of mentally handicapped students. (Ordinarily this course will be offered in conjunction with SpE 451 for Summer School Students.)

SpE 451 Special Class Methods for the Mentally Retarded 3 cr.
Prerequisite: SpE 220.

The chief emphasis of this course will be upon practical and workable methods and materials which can be used effectively with slow-learning children. It is intended as a supplement to SpE 420 as well as to serve as a course in specific techniques which the classroom teacher will find to be valuable in actual classroom teaching of the mentally retarded.

SpE 216 Mental Health in the Schools 3 cr.

This course aims to acquaint the student with the advantages and ideals of education for mental health and human relations. The concept of mental health is developed in terms of optimal human functioning and concentrates on positive aspects and modifications of behavior rather than on malfunctioning and clinical treatment of mental and emotional disorders. The practical application of mental health principles in the school setting is emphasized.

B. SPEECH PATHOLOGY AND AUDIOLOGY

The curriculum in Speech Pathology and Audiology prepares students to meet Pennsylvania State Certification requirements to act as Speech and Hearing Therapists or Speech Correctionists in the public schools. It is also designed to encourage and promote students' participation in graduate programs of Speech Education leading to careers in Speech Pathology or Audiology.

Students are urged to follow the eight semester sequence of courses in orderly progression. Required courses provide a background in (1) fundamental information applicable to the normal development and use of speech, hearing, and language; (2) a study of various types of speech, language, and hearing disorders—their classification, causes, manifestations, and appropriate evaluative and remedial procedures; and (3) effective use of information obtained from related dsciplines about the sensory, physical, emotional, social, and/or intellectual status of a child or an adult. The Speech and Hearing Clinic serves as a laboratory for required clinical practice. Student participation in a public school speech and hearing program is also a requirement.

Students not intending to obtain certification in this field but who are interested in assisting children to develop better communication skills may, with permission of instructor, elect certain courses in the curriculum. Persons in Public School Nursing are encouraged to enroll in Introduction to Audiology.

I. REQUIRED BASIC COURSES: SPEECH PATHOLOGY AND AUDIOLOGY

SpH 111 Fundamentals of Speech and Hearing **3 cr.**

(Prerequisite for all other required courses in the division except Phonetics.)

Introduction to the study of the physiological, acoustical, and scientific processes involved in the production and reception of speech. The genetic development of speech sounds, and factors that hinder or facilitate speech and language acquisition.

SpH 122 Phonetics **3 cr.**

Detailed study of the phonemes of American-English speech from a physical and acoustical point of view. Development of proficiency in the use of the International Phonetic Alphabet for transcription and translation of speech sounds.

SpH 222 Introduction to Audiology **3 cr.**

The auditory function, anatomy of the auditory mechanism, the psychophysics of sound, types and causes of hearing loss, measurement of hearing, and educational considerations for the hearing handicapped child.

SpH 232 Speech Pathology I (Non-Organic) **3 cr.**

Basic orientation to the major types of non-organic speech disorders, their prevalence, symptoms, and causes. The functional disorders of articulation, voice, and rhythm will be emphasized with some consideration given to treatment.

SpH 251 Anatomy and Physiology of the Speech and Hearing Mechanism **3 cr.**

Consideration of the genetic development, structure, and function of the organs of speech and hearing. Anatomical systems involved in respiration, phonation, articulation and hearing, and the relationships between the systems in the production and reception of speech.

SpH 310 Speech Clinic I **2-3 cr.**

Orientation to theory and technique of speech and hearing therapy as applied to specific clients. Diagnosis of problems and planning programs of treatment. Introduction to lesson planning and writing of case history and reports. Observation of clients.

SpH 311 Speech Reading and Auditory Training **3 cr.**

(Prerequisite: SpH 222 Introduction to Audiology).

The teaching of the basic principles of understanding language by observing the speaker's lips and facial expressions, and developing maximal use of residual hearing. Educational and rehabilitative considerations for hard-of-hearing children and adults.

SpH 312 Organization and Administration of Speech & Hearing Programs **3 cr.**
(Meets requirement for Professional Ed. Course).
Consideration of varied procedures in establishing and maintaining speech and hearing programs. The philosophy and methodology for work with speech and hearing handicapped children in the public schools. Techniques of screening and other case finding methods, scheduling, record keeping, teacher and parental counseling, and coordination with other school activities.

SpH 320 Speech Clinic II **2-3 cr.**
Experience in working with individuals or groups of persons who exhibit speech or hearing problems. Lesson planning, writing of reports and case histories of a detailed nature.

SpH 321 Psychology of Speech and Language **3 cr.**
The nature of speech and language as a behavioral influence and as a communicative code; behavior in response to language and psychological principles involved. Normal evolvement of social, motor, and speech skills will be emphasized and their inter-relationships in making satisfactory personal adjustments.

SpH 331 Speech Pathology II (Organic) **3 cr.**
A study of the etiologies, diagnosis, and symptoms of speech defects associated with structural anomalies and physiological dysfunction. Voice disorders, cleft palate, cerebral palsy, and defects of symbolization will be treated.

II. REQUIRED COURSES IN RELATED AREAS:

SpE 220 Introduction to Exceptional Children
(See Course Description under Introductory Courses: Special Education and Clinical Services).

El 222 Teaching of Reading
(See Course Description under Elementary Education Dept.)

Ed 362 Developmental Reading
(See Course Description under Elementary Dept.)

III. SUGGESTED ELECTIVES IN RELATED AREAS

SpE 215 Child Development
(See Course Description under Introductory Courses, Special Education and Clinical Services.)
or

Psy 215 Child Development
(See Course Description under Elementary Education Dept.)

Eng 251 History of the English Language
(See Course Description under English Dept.)

El 313 Teaching of Math in Elementary School
(See Course Description under Elementary Ed.)

Psy 352 Mental Hygiene
(See Course Description under Psychology courses—electives.)

Eng 364 Trends in Linguistics
(See Course Description under English Dept.)

Ling 421 Language and Society
(See Course Description under Foreign Language Dept.: Linguistics).

IV. ELECTIVES IN SPEECH PATHOLOGY AND AUDIOLOGY

(Offerings vary from term to term).

SpH 410 Articulation Disorders **3 cr.**
Detailed consideration of the speech-sound production disorders in children and adults. Etiology of articulation disorders, methods of testing articulation and techniques of therapy for persons exhibiting articulation disorders. Current thinking and research in the field is emphasized. Open only to majors.

SpH 474 Faculty-Student Research Projects **1-2 cr.**
Investigation of worthwhile problems within the limits of the resources of the Speech and Hearing Clinic. Collection of data, data analysis, and the writing of an article to be submitted for publication. Open only to seniors, and with the permission of the faculty. Should be taken for two semesters, one credit each.

SpH 412 Cleft Palate **2 cr.**
A study of the embryology of the facial and cranial skull with emphasis on the development of the oral pharyngeal structures associated with speech; theories of etiology, classifications of lip and palatal clefts; methods of surgical and prosthetic repair with consideration to the appropriateness and feasibility of a specific procedure; principles and methods of speech and language training.

SpH 404 Diagnostic Methods **2 cr.**
A compilation and evaluation of diagnostic resources applicable to evaluation of speech disorders bases for selection of appropriate materials in differential diagnoses; interpretation of test results and their significance in planning future therapy.

SpH 418 Voice **2 cr.**

An advanced study of the theory of voice production with emphasis on physiology, pathology and malfunctioning which produce voice defects; the possible relationship of disorders of voice and disorders of personality; diagnostic methods and therapeutic considerations for both organic and psychogenic disorders. Special attention will be given to therapy for the laryngectomized.

SpH 440 Advanced Audiology **2 cr.**

The identification of types of hearing loss by special audiological tests—speech audiometry, Bekesy, SAL, tone decay, PGSR; interpretation of the audiogram and its relevancy to diagnosis and remedial procedures; functions and characteristics of hearing aids with respect to speech reception and discrimination.

SpH 416 Stuttering **2 cr.**

An intensive study of the nature of the stuttering disorder and its effects in the dynamics of personality development, evaluation of prevalent causal theories and their implications for both symtomological and psychological methods of treatment as adapted to individuals or group situations. Review of pertinent and recent research topics.

SpH 450 Speech Science **2 cr.**

A physiological, neurological, and acoustical study of the communicative process with special attention to speech monitoring, controls and perception. Emphasis will be placed on current research methodology, clinical instrumentation, and laboratory techniques.

V. COURSES FOR NON-MAJORS

SpH 254 Speech Development and Improvement **3 cr.**

A study of those aspects of speech and hearing problems pertaining to the classroom situation. Types of speech and hearing disorders, conducting speech improvement lessons, classroom aids for the speech and hearing defective child, and school and community resources for these children. Required for majors in Special Education: Mentally Retarded, and suggested for Elementary Education majors.

SpH 354 Audiometry for Public School Nurses **3 cr.**

An intensive review of the physiology of hearing; the etiologies and classifications of hearing loss; the use of audiometric testing equipment in the schools; interpretation of the audiogram; and the role of the nurse in public health hearing programs.

C. REHABILITATION EDUCATION

The following curriculum in Rehabilitation Education is offered to student majors seeking career opportunities with health and welfare agencies and institutions. Although originally identified with the needs of the war disabled, the benefits of Rehabilitation have been extended to the larger requirements of civilian handicapped. Demands for trained personnel in Rehabilitation have grown accordingly. The program in Rehabilitation Education also provides basic training and a foundation for pursuing additional work at the graduate level. Nonmajors may elect certain courses with permission of the instructor.

SpR 310 The Physical Basis of Disability **3 cr.**

This course explores the structural and physiological changes from the normal occurring in selected disabilities of individuals whom the rehabilitation coordinator frequently encounters: the blind and visually handicapped; the cardiac, diabetic, and amputee; the deaf and hard-of-hearing; the cerebral-palsied, cleft palate, the cerebro-vascular accident, and the laryngectomized. Prerequisites: General Biology and Introduction to the Exceptional Child.

SpR 321 Psychological Basis of Disability **3 cr.**

This course seeks to clarify and lend understanding to gut responses of fear, anger, embarrassment, frustration, bewilderment, and loneliness which influence the behavior and relationships of handicapped individuals and rehabilitation workers alike. The emphasis is on the processes by which such gut responses develop, their influence on the individual's outlook toward his disability, his selfhood, and the society in which he lives. Prerequisites: General Psychology and Introduction to Sociology.

SpR 320 Principles and Methods of Rehabilitation **3 cr.**

This course attempts to delineate the roles played by and the information gained from members of the professional disciplines of physical, orthopedic, and internal medicine; psychiatry, psychology, otology, opthomalogy, audiology, speech pathology, prosthodontics, physical and occupational therapy, special education; and how the rehabilitation coordinator used such diagnostic information in evaluating and helping the disabled individual to plan a regimen for the acquisition of skills or education which will enable him to pursue as independently and as fully as possible a normal way of life.

Prerequisites: SpR 310.

SpR 411 Occupational Information **3 cr.**

The purpose of this course is to familiarize the rehabilitation coordinator with types of jobs, the levels of education of

skill necessary for occupational success, methods of job training and assessment, and the influence of appropriate, financially productive employment on the personality development and social outlook of the disabled, legal aspects and legislation affecting job placement.

SpR 421 Clinical Information in Rehabilitation 3 cr.
Students are introduced to medical and psychosocial information, procedures, and terminology used in rehabilitation. Clinical diagnosis, prognosis, and methods of treatment are surveyed, as these procedures relate to rehabilitation of disabled persons.

SpR 410 Field Training in Rehabilitation I 6 cr.

SpR 420 Field Training in Rehabilitation II 6 cr.
The emphasis in this unit is the development of the student rehabilitation coordinator by close association with a paid professional working with disabled clients in a public or private agency. Writing and analysis of case reports, counseling of clients, understanding of agency responsibilities and limitations, referral, follow-up, and final evaluation of client's ability to function with various degrees of autonomy.

RELATED AREAS

SpE 220 Introduction to Exceptional Children 3 cr.

SpE 320 Psychology of the Mentally Retarded 3 cr.

SpE 255 Development of Language in Children 3 cr.
or
SpH 254 Speech Development and Improvement 3 cr.

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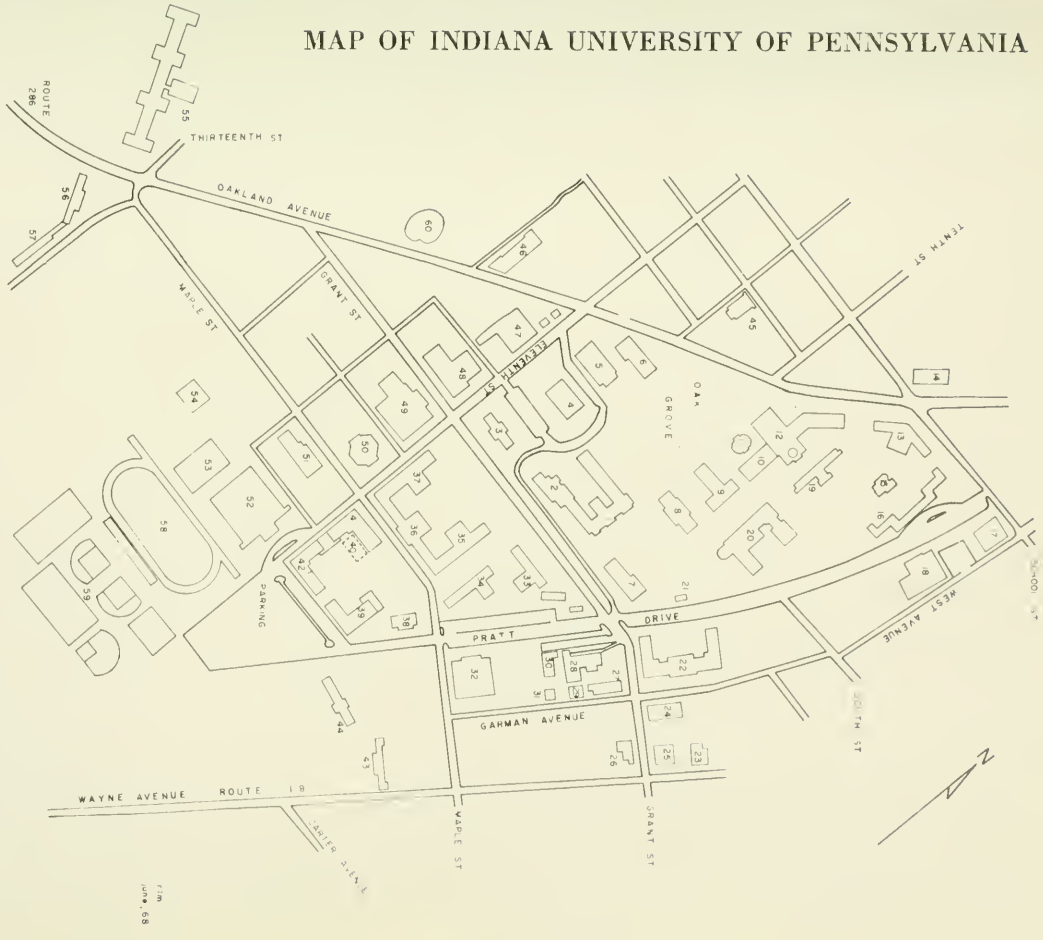
MAP OF INDIANA UNIVERSITY OF PENNSYLVANIA

KEY TO BUILDINGS

1. John Sutton Hall
2. Thomas Sutton Hall
3. Clark Hall
4. Stabley Library
5. Fisher Auditorium
6. Waller Hall
7. Ackerman Hall
8. McElhaney Hall
9. Leonard Hall
10. Walsh Hall
11. Wilson Hall
12. Weyandt Hall
13. Elkin Hall
14. Leininger Hall
15. Elkin House
16. Whitmyre Hall
17. Student Affairs Building
18. Student Union
19. Gordon Hall
20. Keith Hall
21. Flagstone Theater
22. Women's Dorm (proposed)
23. Algonquin Hall
24. Conestoga Hall
25. Stone Manor
26. Grant Hall
27. Maintenance Building
28. Boiler Plant
29. Martin Range
30. Shop Building
31. Maintenance Garage
32. Dining Hall (proposed)
33. Wahr Hall
34. Langham Hall
35. Turnbull Hall
36. Stewart Hall
37. Mack Hall
38. Health Services Building
39. Men's Dormitory
40. Area Emer. Op. Center
41. Men's Dormitory
42. Men's Dormitory
43. Leroy Hall
44. McGregor Hall
45. Uhler Hall
46. Wyoming Hall
47. Cogswell Hall
48. Classroom Hall (proposed)
49. Foster Dining Hall
50. Learning Research Center
51. Military Hall
52. Memorial Field House
53. Tennis Courts
54. Lecture Building
55. Carriage House
56. Oakland Hall
57. Rooney Hall
58. Miller Stadium
59. Athletic Fields
60. Newman Center



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